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Attorney Docket No.

210121.478C4

First Inventor or Application Identifier

Tongtong Wang

Title

COMPOSITIONS AND METHODS FOR THERAPY AND
DIAGNOSIS OF LUNG CANCER

Express Mail Label No.

EL487465244US

APPLICATION ELEMENTS

See MPEP chapter, 600 concerning utility patent application contents.

ADDRESS TO:

Box Patent Application
Assistant Commissioner for Patents
Washington, D.C. 20231

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| <p>1. <input type="checkbox"/> General Authorization Form & Fee Transmittal
(Submit an original and a duplicate for fee processing)</p> <p>2. <input checked="" type="checkbox"/> Specification [Total Pages] 92
(preferred arrangement set forth below)</p> <ul style="list-style-type: none"> - Descriptive Title of the Invention - Cross References to Related Applications - Statement Regarding Fed sponsored R & D - Reference to Microfiche Appendix - Background of the Invention - Brief Summary of the Invention - Brief Description of the Drawings (if filed) - Detailed Description - Claim(s) - Abstract of the Disclosure <p>3. <input type="checkbox"/> Drawing(s) (35 USC 113) [Total Sheets] </p> <p>4. Oath or Declaration [Total Pages] </p> <p style="margin-left: 20px;">a. <input type="checkbox"/> Newly executed (original or copy)</p> <p style="margin-left: 20px;">b. <input type="checkbox"/> Copy from a prior application (37 CFR 1.63(d))
(for continuation/divisional with Box 17 completed)</p> <p style="margin-left: 40px;">i. <input type="checkbox"/> DELETION OF INVENTOR(S)
Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b)</p> <p>5. <input type="checkbox"/> Incorporation By Reference (useable if box 4b is checked) The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 4b, is considered to be part of the disclosure of the accompanying application and is hereby incorporated by reference therein.</p> | <p>6. <input type="checkbox"/> Microfiche Computer Program (Appendix)</p> <p>7. Nucleotide and Amino Acid Sequence Submission (if applicable, all necessary)</p> <p style="margin-left: 20px;">a. <input checked="" type="checkbox"/> Computer-Readable Copy</p> <p style="margin-left: 20px;">b. <input checked="" type="checkbox"/> Paper Copy (identical to computer copy)</p> <p style="margin-left: 20px;">c. <input checked="" type="checkbox"/> Statement verifying identity of above copies</p> |
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ACCOMPANYING APPLICATION PARTS

<p>8. <input type="checkbox"/> Assignment Papers (cover sheet & document(s))</p> <p>9. <input type="checkbox"/> 37 CFR 3.73(b) Statement (when there is an assignee)</p> <p>10. <input type="checkbox"/> English Translation Document (if applicable)</p> <p>11. <input type="checkbox"/> Information Disclosure Statement (IDS)/PTO-1449</p> <p>12. <input type="checkbox"/> Preliminary Amendment</p> <p>13. <input checked="" type="checkbox"/> Return Receipt Postcard</p> <p>14. <input type="checkbox"/> Small Entity Statement(s)</p> <p>15. <input type="checkbox"/> Certified Copy of Priority Document(s) (if foreign priority is claimed)</p> <p>16. <input checked="" type="checkbox"/> Other: <u>Certificate of Express Mail</u></p>	<p><input type="checkbox"/> Power of Attorney</p> <p><input type="checkbox"/> Copies of IDS Citations</p> <p><input type="checkbox"/> Statement filed in prior application, Status still proper and desired</p>
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ACCOMPANYING APPLICATION PARTS

8. ☐ Assignment Papers (cover sheet & document(s))
9. ☐ 37 CFR 3.73(b) Statement ☐ Power of Attorney
(when there is an assignee)
10. ☐ English Translation Document (if applicable)
11. ☐ Information Disclosure ☐ Copies of IDS
Statement (IDS)/PTO-1449 Citations
12. ☐ Preliminary Amendment
13. ☒ Return Receipt Postcard
14. ☐ Small Entity ☐ Statement filed in prior application,
Statement(s) Status still proper and desired
15. ☐ Certified Copy of Priority Document(s)
(if foreign priority is claimed)
16. ☒ Other: Certificate of Express Mail

17. If a CONTINUING APPLICATION, *check appropriate box and supply the requisite information below and in a preliminary amendment*

☐ Continuation ☐ Divisional ☒ Continuation-In-Part (CIP) of prior Application No.: 09/476,300 filed
December 30, 1999

Prior application information: Examiner not assigned

Group / Art Unit 1646

☐ Claims the benefit of Provisional Application No.

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Respectfully submitted,

TYPED or PRINTED NAME David J. Maki

SIGNATURE

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REGISTRATION NO. 31,392

Date _____

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT

Applicants : Tongtong Wang and Chaitanya S. Bangur
Filed : March 6, 2000
For : COMPOSITIONS AND METHODS FOR THERAPY AND
DIAGNOSIS OF LUNG CANCER

Docket No. : 210121.478C4

Date : March 6, 2000

Box Patent Application
Assistant Commissioner for Patents
Washington, DC 20231

CERTIFICATE OF MAILING BY "EXPRESS MAIL"

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Respectfully submitted,

Seed Intellectual Property Law Group PLLC



Judith A. Breaks/Jeanette West/Susan Johnson

Enclosures:

Postcard
Form PTO/SB/05
Specification, Claims, Abstract (92 pages)
Declaration for Sequence Listing
Diskette containing Sequence Listing
Sequence Listing (278 pages)

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COMPOSITIONS AND METHODS FOR THERAPY
AND DIAGNOSIS OF LUNG CANCER

REFERENCE TO RELATED APPLICATIONS

This application is a continuation-in-part of U.S. Patent Application No. 09/476,300 filed December 30, 1999, which is a continuation-in-part of U.S. Patent Application No. 09/466,867, filed December 17, 1999, which is a continuation-in-part of U.S. Patent Application 09/419,356, filed October 15, 1999, which is a continuation-in-part of U.S. Patent Application No. 09/346,492, filed June 30, 1999.

TECHNICAL FIELD

The present invention relates generally to therapy and diagnosis of cancer, such as lung cancer. The invention is more specifically related to polypeptides comprising at least a portion of a lung tumor protein, and to polynucleotides encoding such polypeptides. Such polypeptides and polynucleotides may be used in vaccines and pharmaceutical compositions for prevention and treatment of lung cancer, and for the diagnosis and monitoring of such cancers.

BACKGROUND OF THE INVENTION

Cancer is a significant health problem throughout the world. Although advances have been made in detection and therapy of cancer, no vaccine or other universally successful method for prevention or treatment is currently available. Current therapies, which are generally based on a combination of chemotherapy or surgery and radiation, continue to prove inadequate in many patients.

Lung cancer is the primary cause of cancer death among both men and women in the U.S., with an estimated 172,000 new cases being reported in 1994. The five-year survival rate among all lung cancer patients, regardless of the stage of disease at diagnosis, is only 13%. This contrasts with a five-year survival rate of 46% among cases detected while the disease is still localized. However, only 16% of lung cancers are discovered before the disease has spread.

Early detection is difficult since clinical symptoms are often not seen until the disease has reached an advanced stage. Currently, diagnosis is aided by the use of chest x-rays, analysis of the type of cells contained in sputum and fiberoptic examination of the bronchial passages. Treatment regimens are determined by the type and stage of the cancer, and include surgery, radiation therapy and/or chemotherapy.

In spite of considerable research into therapies for this and other cancers, lung cancer remains difficult to diagnose and treat effectively. Accordingly, there is a need in the art for improved methods for detecting and treating such cancers. The present invention fulfills these needs and further provides other related advantages.

SUMMARY OF THE INVENTION

Briefly stated, the present invention provides compositions and methods for the diagnosis and therapy of cancer, such as lung cancer. In one aspect, the present invention provides polypeptides comprising at least a portion of a lung tumor protein, or a variant thereof. Certain portions and other variants are immunogenic, such that the ability of the variant to react with antigen-specific antisera is not substantially diminished. Within certain embodiments, the polypeptides comprise a sequence that is encoded by a polynucleotide sequence selected from the group consisting of: (a) sequences recited in SEQ ID NO:1-782, 784, 785 and 788; (b) variants of a sequence recited in SEQ ID NO: 1-782, 784, 785 and 788; and (c) complements of a sequence of (a) or (b).

The present invention further provides polynucleotides that encode a polypeptide as described above, or a portion thereof (such as a portion encoding at least 15 amino acid residues of a lung tumor protein), expression vectors comprising such polynucleotides and host cells transformed or transfected with such expression vectors.

Within other aspects, the present invention provides pharmaceutical compositions comprising a polypeptide or polynucleotide as described above and a physiologically acceptable carrier.

Within a related aspect of the present invention, vaccines are provided. Such vaccines comprise a polypeptide or polynucleotide as described above and an immunostimulant.

The present invention further provides pharmaceutical compositions that comprise: (a) an antibody or antigen-binding fragment thereof that specifically binds to a lung tumor protein; and (b) a physiologically acceptable carrier.

Within further aspects, the present invention provides pharmaceutical compositions comprising: (a) an antigen presenting cell that expresses a polypeptide as described above and (b) a pharmaceutically acceptable carrier or excipient. Antigen presenting cells include dendritic cells, macrophages and B cells.

Within related aspects, vaccines for prophylactic and/or therapeutic use are provided that comprise: (a) an antigen presenting cell that expresses a polypeptide as described above; and (b) an immunostimulant.

The present invention further provides fusion proteins that comprise at least one polypeptide disclosed herein, as well as polynucleotides encoding such fusion proteins.

Within related aspects, pharmaceutical compositions comprising a fusion protein, or a polynucleotide encoding such a fusion protein, in combination with a physiologically acceptable carrier are provided.

Vaccines are further provided that comprise a fusion protein, or a polynucleotide encoding a fusion protein, in combination with an immunostimulant.

Within other aspects, the present invention provides methods for inhibiting the development of a cancer in a patient, comprising administering to a patient a pharmaceutical composition or vaccine as recited above.

The present invention further provides methods for removing tumor cells from a biological sample, comprising contacting a biological sample with T cells that specifically react with a lung tumor protein, wherein the step of contacting is performed under conditions and for a time sufficient to permit the removal of cells expressing the protein from the sample.

Within related aspects, methods are provided for inhibiting the development of a cancer in a patient, comprising administering to a patient a biological sample treated as described above.

Methods are further provided for stimulating and/or expanding T cells specific for a lung tumor protein, comprising contacting T cells under conditions and for a time sufficient to permit the stimulation and/or expansion of the T cells, with one or more of: (i) a polypeptide as

described above; (ii) a polynucleotide encoding such a polypeptide; and (iii) an antigen presenting cell that expresses such a polypeptide. Isolated T cell populations comprising T cells prepared as described above are also provided.

Within further aspects, the present invention provides methods for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a T cell population as described above.

The present invention further provides methods for inhibiting the development of a cancer in a patient, comprising the steps of: (a) incubating CD4⁺ and/or CD8⁺ T cells isolated from a patient with one or more of: (i) a polypeptide comprising at least an immunogenic portion of a lung tumor protein; (ii) a polynucleotide encoding such a polypeptide; and (iii) an antigen-presenting cell that expressed such a polypeptide; and (b) administering to the patient an effective amount of the proliferated T cells, and thereby inhibiting the development of a cancer in the patient. Proliferated cells may, but need not, be cloned prior to administration to the patient.

Within further aspects, the present invention provides methods for determining the presence or absence of a cancer in a patient, comprising: (a) contacting a biological sample obtained from a patient with a binding agent that binds to a polypeptide as recited above; (b) detecting in the sample an amount of polypeptide that binds to the binding agent; and (c) comparing the amount of polypeptide with a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient. Within preferred embodiments, the binding agent is an antibody, more preferably a monoclonal antibody. The cancer may be a lung cancer.

The present invention also provides, within other aspects, methods for monitoring the progression of a cancer in a patient. Such methods comprise the steps of: (a) contacting a biological sample obtained from a patient at a first point in time with a binding agent that binds to a polypeptide as recited above; (b) detecting in the sample an amount of polypeptide that binds to the binding agent; (c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and (d) comparing the amount of polypeptide detected in step (c) with the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

The present invention further provides, within other aspects, methods for determining the presence or absence of a cancer in a patient, comprising the steps of: (a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a lung tumor protein; (b) detecting in the sample a level of a polynucleotide, preferably mRNA, that hybridizes to the oligonucleotide; and (c) comparing the level of polynucleotide that hybridizes to the oligonucleotide with a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient. Within certain embodiments, the amount of mRNA is detected via polymerase chain reaction using, for example, at least one oligonucleotide primer that hybridizes to a polynucleotide encoding a polypeptide as recited above, or a complement of such a polynucleotide. Within other embodiments, the amount of mRNA is detected using a hybridization technique, employing an oligonucleotide probe that hybridizes to a polynucleotide that encodes a polypeptide as recited above, or a complement of such a polynucleotide.

In related aspects, methods are provided for monitoring the progression of a cancer in a patient, comprising the steps of: (a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a lung tumor protein; (b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide; (c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and (d) comparing the amount of polynucleotide detected in step (c) with the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

Within further aspects, the present invention provides antibodies, such as monoclonal antibodies, that bind to a polypeptide as described above, as well as diagnostic kits comprising such antibodies. Diagnostic kits comprising one or more oligonucleotide probes or primers as described above are also provided.

These and other aspects of the present invention will become apparent upon reference to the following detailed description. All references disclosed herein are hereby incorporated by reference in their entirety as if each was incorporated individually.

SEQUENCE IDENTIFIERS

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SEQ ID NO: 2 is the determined cDNA sequence for clone #19036.

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SEQ ID NO: 6 is the determined cDNA sequence for clone #19030, also referred to as L559S.

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SEQ ID NO: 8 is the determined cDNA sequence for clone #19025.

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SEQ ID NO: 208 is a first determined cDNA sequence for clone #19206.1.
SEQ ID NO: 209 is a second determined cDNA sequence for clone #19206.2.
SEQ ID NO: 210 is the determined cDNA sequence for clone #19207.
SEQ ID NO: 211 is the determined cDNA sequence for clone #19208.
SEQ ID NO: 212 is a first determined cDNA sequence for clone #19211.1.
SEQ ID NO: 213 is a second determined cDNA sequence for clone #19211.2.
SEQ ID NO: 214 is a first determined cDNA sequence for clone #19214.1.
SEQ ID NO: 215 is a second determined cDNA sequence for clone #19214.2.
SEQ ID NO: 216 is the determined cDNA sequence for clone #19215.
SEQ ID NO: 217 is a first determined cDNA sequence for clone #19217. 2.
SEQ ID NO: 218 is a second determined cDNA sequence for clone #19217.2.
SEQ ID NO: 219 is a first determined cDNA sequence for clone #19218.1.
SEQ ID NO: 220 is a second determined cDNA sequence for clone #19218.2.
SEQ ID NO: 221 is a first determined cDNA sequence for clone #19220.1.
SEQ ID NO: 222 is a second determined cDNA sequence for clone #19220.2.
SEQ ID NO: 223 is the determined cDNA sequence for clone #22015.
SEQ ID NO: 224 is the determined cDNA sequence for clone #22017.
SEQ ID NO: 225 is the determined cDNA sequence for clone #22019.
SEQ ID NO: 226 is the determined cDNA sequence for clone #22020.
SEQ ID NO: 227 is the determined cDNA sequence for clone #22023.
SEQ ID NO: 228 is the determined cDNA sequence for clone #22026.
SEQ ID NO: 229 is the determined cDNA sequence for clone #22027.
SEQ ID NO: 230 is the determined cDNA sequence for clone #22028.
SEQ ID NO: 231 is the determined cDNA sequence for clone #22032.
SEQ ID NO: 232 is the determined cDNA sequence for clone #22037.
SEQ ID NO: 233 is the determined cDNA sequence for clone #22045.
SEQ ID NO: 234 is the determined cDNA sequence for clone #22048.
SEQ ID NO: 235 is the determined cDNA sequence for clone #22050.
SEQ ID NO: 236 is the determined cDNA sequence for clone #22052.
SEQ ID NO: 237 is the determined cDNA sequence for clone #22053.

SEQ ID NO: 238 is the determined cDNA sequence for clone #22057.
SEQ ID NO: 239 is the determined cDNA sequence for clone #22066.
SEQ ID NO: 240 is the determined cDNA sequence for clone #22077.
SEQ ID NO: 241 is the determined cDNA sequence for clone #22085.
SEQ ID NO: 242 is the determined cDNA sequence for clone #22105.
SEQ ID NO: 243 is the determined cDNA sequence for clone #22108.
SEQ ID NO: 244 is the determined cDNA sequence for clone #22109.
SEQ ID NO: 245 is the determined cDNA sequence for clone #24842.
SEQ ID NO: 246 is the determined cDNA sequence for clone #24843.
SEQ ID NO: 247 is the determined cDNA sequence for clone #24845.
SEQ ID NO: 248 is the determined cDNA sequence for clone #24851.
SEQ ID NO: 249 is the determined cDNA sequence for clone #24852.
SEQ ID NO: 250 is the determined cDNA sequence for clone #24853.
SEQ ID NO: 251 is the determined cDNA sequence for clone #24854.
SEQ ID NO: 252 is the determined cDNA sequence for clone #24855.
SEQ ID NO: 253 is the determined cDNA sequence for clone #24860.
SEQ ID NO: 254 is the determined cDNA sequence for clone #24864.
SEQ ID NO: 255 is the determined cDNA sequence for clone #24866.
SEQ ID NO: 256 is the determined cDNA sequence for clone #24867.
SEQ ID NO: 257 is the determined cDNA sequence for clone #24868.
SEQ ID NO: 258 is the determined cDNA sequence for clone #24869.
SEQ ID NO: 259 is the determined cDNA sequence for clone #24870.
SEQ ID NO: 260 is the determined cDNA sequence for clone #24872.
SEQ ID NO: 261 is the determined cDNA sequence for clone #24873.
SEQ ID NO: 262 is the determined cDNA sequence for clone #24875.
SEQ ID NO: 263 is the determined cDNA sequence for clone #24882.
SEQ ID NO: 264 is the determined cDNA sequence for clone #24885.
SEQ ID NO: 265 is the determined cDNA sequence for clone #24886.
SEQ ID NO: 266 is the determined cDNA sequence for clone #24887.
SEQ ID NO: 267 is the determined cDNA sequence for clone #24888.

SEQ ID NO: 268 is the determined cDNA sequence for clone #24890.
SEQ ID NO: 269 is the determined cDNA sequence for clone #24896.
SEQ ID NO: 270 is the determined cDNA sequence for clone #24897.
SEQ ID NO: 271 is the determined cDNA sequence for clone #24899.
SEQ ID NO: 272 is the determined cDNA sequence for clone #24901.
SEQ ID NO: 273 is the determined cDNA sequence for clone #24902.
SEQ ID NO: 274 is the determined cDNA sequence for clone #24906.
SEQ ID NO: 275 is the determined cDNA sequence for clone #24912.
SEQ ID NO: 276 is the determined cDNA sequence for clone #24913.
SEQ ID NO: 277 is the determined cDNA sequence for clone #24920.
SEQ ID NO: 278 is the determined cDNA sequence for clone #24927.
SEQ ID NO: 279 is the determined cDNA sequence for clone #24930.
SEQ ID NO: 280 is the determined cDNA sequence for clone #26938.
SEQ ID NO: 281 is the determined cDNA sequence for clone #26939.
SEQ ID NO: 282 is the determined cDNA sequence for clone #26943.
SEQ ID NO: 283 is the determined cDNA sequence for clone #26948.
SEQ ID NO: 284 is the determined cDNA sequence for clone #26951.
SEQ ID NO: 285 is the determined cDNA sequence for clone #26955.
SEQ ID NO: 286 is the determined cDNA sequence for clone #26956.
SEQ ID NO: 287 is the determined cDNA sequence for clone #26959.
SEQ ID NO: 288 is the determined cDNA sequence for clone #26961.
SEQ ID NO: 289 is the determined cDNA sequence for clone #26962.
SEQ ID NO: 290 is the determined cDNA sequence for clone #26964.
SEQ ID NO: 291 is the determined cDNA sequence for clone #26966.
SEQ ID NO: 292 is the determined cDNA sequence for clone #26968.
SEQ ID NO: 293 is the determined cDNA sequence for clone #26972.
SEQ ID NO: 294 is the determined cDNA sequence for clone #26973.
SEQ ID NO: 295 is the determined cDNA sequence for clone #26974.
SEQ ID NO: 296 is the determined cDNA sequence for clone #26976.
SEQ ID NO: 297 is the determined cDNA sequence for clone #26977.

SEQ ID NO: 298 is the determined cDNA sequence for clone #26979.
SEQ ID NO: 299 is the determined cDNA sequence for clone #26980.
SEQ ID NO: 300 is the determined cDNA sequence for clone #26981.
SEQ ID NO: 301 is the determined cDNA sequence for clone #26984.
SEQ ID NO: 302 is the determined cDNA sequence for clone #26985.
SEQ ID NO: 303 is the determined cDNA sequence for clone #26986.
SEQ ID NO: 304 is the determined cDNA sequence for clone #26993.
SEQ ID NO: 305 is the determined cDNA sequence for clone #26994.
SEQ ID NO: 306 is the determined cDNA sequence for clone #26995.
SEQ ID NO: 307 is the determined cDNA sequence for clone #27003.
SEQ ID NO: 308 is the determined cDNA sequence for clone #27005.
SEQ ID NO: 309 is the determined cDNA sequence for clone #27010.
SEQ ID NO: 310 is the determined cDNA sequence for clone #27011.
SEQ ID NO: 311 is the determined cDNA sequence for clone #27013.
SEQ ID NO: 312 is the determined cDNA sequence for clone #27016.
SEQ ID NO: 313 is the determined cDNA sequence for clone #27017.
SEQ ID NO: 314 is the determined cDNA sequence for clone #27019.
SEQ ID NO: 315 is the determined cDNA sequence for clone #27028.
SEQ ID NO: 316 is the full-length cDNA sequence for clone #19060.
SEQ ID NO: 317 is the full-length cDNA sequence for clone #18964.
SEQ ID NO: 318 is the full-length cDNA sequence for clone #18929.
SEQ ID NO: 319 is the full-length cDNA sequence for clone #18991.
SEQ ID NO: 320 is the full-length cDNA sequence for clone #18996.
SEQ ID NO: 321 is the full-length cDNA sequence for clone #18966.
SEQ ID NO: 322 is the full-length cDNA sequence for clone #18951.
SEQ ID NO: 323 is the full-length cDNA sequence for clone #18973 (also known as L516S).

SEQ ID NO: 324 is the amino acid sequence for clone #19060.
SEQ ID NO: 325 is the amino acid sequence for clone #19063.
SEQ ID NO: 326 is the amino acid sequence for clone #19077.

SEQ ID NO: 327 is the amino acid sequence for clone #19110.
SEQ ID NO: 328 is the amino acid sequence for clone #19122.
SEQ ID NO: 329 is the amino acid sequence for clone #19118.
SEQ ID NO: 330 is the amino acid sequence for clone #19080.
SEQ ID NO: 331 is the amino acid sequence for clone #19127.
SEQ ID NO: 332 is the amino acid sequence for clone #19117.
SEQ ID NO: 333 is the amino acid sequence for clone #19095, also referred to

L549S.

SEQ ID NO: 334 is the amino acid sequence for clone #18964.
SEQ ID NO: 335 is the amino acid sequence for clone #18929.
SEQ ID NO: 336 is the amino acid sequence for clone #18991.
SEQ ID NO: 337 is the amino acid sequence for clone #18996.
SEQ ID NO: 338 is the amino acid sequence for clone #18966.
SEQ ID NO: 339 is the amino acid sequence for clone #18951.
SEQ ID NO: 340 is the amino acid sequence for clone #18973.
SEQ ID NO: 341 is the determined cDNA sequence for clone 26461.
SEQ ID NO: 342 is the determined cDNA sequence for clone 26462.
SEQ ID NO: 343 is the determined cDNA sequence for clone 26463.
SEQ ID NO: 344 is the determined cDNA sequence for clone 26464.
SEQ ID NO: 345 is the determined cDNA sequence for clone 26465.
SEQ ID NO: 346 is the determined cDNA sequence for clone 26466.
SEQ ID NO: 347 is the determined cDNA sequence for clone 26467.
SEQ ID NO: 348 is the determined cDNA sequence for clone 26468.
SEQ ID NO: 349 is the determined cDNA sequence for clone 26469.
SEQ ID NO: 350 is the determined cDNA sequence for clone 26470.
SEQ ID NO: 351 is the determined cDNA sequence for clone 26471.
SEQ ID NO: 352 is the determined cDNA sequence for clone 26472.
SEQ ID NO: 353 is the determined cDNA sequence for clone 26474.
SEQ ID NO: 354 is the determined cDNA sequence for clone 26475.
SEQ ID NO: 355 is the determined cDNA sequence for clone 26476.

SEQ ID NO: 356 is the determined cDNA sequence for clone 26477.
SEQ ID NO: 357 is the determined cDNA sequence for clone 26478.
SEQ ID NO: 358 is the determined cDNA sequence for clone 26479.
SEQ ID NO: 359 is the determined cDNA sequence for clone 26480.
SEQ ID NO: 360 is the determined cDNA sequence for clone 26481.
SEQ ID NO: 361 is the determined cDNA sequence for clone 26482.
SEQ ID NO: 362 is the determined cDNA sequence for clone 26483.
SEQ ID NO: 363 is the determined cDNA sequence for clone 26484.
SEQ ID NO: 364 is the determined cDNA sequence for clone 26485.
SEQ ID NO: 365 is the determined cDNA sequence for clone 26486.
SEQ ID NO: 366 is the determined cDNA sequence for clone 26487.
SEQ ID NO: 367 is the determined cDNA sequence for clone 26488.
SEQ ID NO: 368 is the determined cDNA sequence for clone 26489.
SEQ ID NO: 369 is the determined cDNA sequence for clone 26490.
SEQ ID NO: 370 is the determined cDNA sequence for clone 26491.
SEQ ID NO: 371 is the determined cDNA sequence for clone 26492.
SEQ ID NO: 372 is the determined cDNA sequence for clone 26493.
SEQ ID NO: 373 is the determined cDNA sequence for clone 26494.
SEQ ID NO: 374 is the determined cDNA sequence for clone 26495.
SEQ ID NO: 375 is the determined cDNA sequence for clone 26496.
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SEQ ID NO: 377 is the determined cDNA sequence for clone 26498.
SEQ ID NO: 378 is the determined cDNA sequence for clone 26499.
SEQ ID NO: 379 is the determined cDNA sequence for clone 26500.
SEQ ID NO: 380 is the determined cDNA sequence for clone 26501.
SEQ ID NO: 381 is the determined cDNA sequence for clone 26502.
SEQ ID NO: 382 is the determined cDNA sequence for clone 26503.
SEQ ID NO: 383 is the determined cDNA sequence for clone 26504.
SEQ ID NO: 384 is the determined cDNA sequence for clone 26505.
SEQ ID NO: 385 is the determined cDNA sequence for clone 26506.

SEQ ID NO: 386 is the determined cDNA sequence for clone 26507.
SEQ ID NO: 387 is the determined cDNA sequence for clone 26508.
SEQ ID NO: 388 is the determined cDNA sequence for clone 26509.
SEQ ID NO: 389 is the determined cDNA sequence for clone 26511.
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SEQ ID NO: 391 is the determined cDNA sequence for clone 26514.
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SEQ ID NO: 406 is the determined cDNA sequence for clone 26530.
SEQ ID NO: 407 is the determined cDNA sequence for clone 26532.
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SEQ ID NO: 412 is the determined cDNA sequence for clone 26537.
SEQ ID NO: 413 is the determined cDNA sequence for clone 26538.
SEQ ID NO: 414 is the determined cDNA sequence for clone 26540.
SEQ ID NO: 415 is the determined cDNA sequence for clone 26541.

SEQ ID NO: 416 is the determined cDNA sequence for clone 26542.
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SEQ ID NO: 420 is the determined cDNA sequence for clone 26547.
SEQ ID NO: 421 is the determined cDNA sequence for clone 26548.
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SEQ ID NO: 425 is the determined cDNA sequence for clone 26552.
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SEQ ID NO: 427 is the determined cDNA sequence for clone 26554.
SEQ ID NO: 428 is the determined cDNA sequence for clone 26556.
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SEQ ID NO: 435 is the determined cDNA sequence for clone 27637.
SEQ ID NO: 436 is the determined cDNA sequence for clone 27638.
SEQ ID NO: 437 is the determined cDNA sequence for clone 27639.
SEQ ID NO: 438 is the determined cDNA sequence for clone 27640.
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SEQ ID NO: 444 is the determined cDNA sequence for clone 27649.
SEQ ID NO: 445 is the determined cDNA sequence for clone 27650.

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SEQ ID NO: 457 is the determined cDNA sequence for clone 27672.
SEQ ID NO: 458 is the determined cDNA sequence for clone 27674.
SEQ ID NO: 459 is the determined cDNA sequence for clone 27677.
SEQ ID NO: 460 is the determined cDNA sequence for clone 27681.
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SEQ ID NO: 462 is the determined cDNA sequence for clone 27683.
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SEQ ID NO: 467 is the determined cDNA sequence for clone 27693.
SEQ ID NO: 468 is the determined cDNA sequence for clone 27699.
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SEQ ID NO: 470 is the determined cDNA sequence for clone 27702.
SEQ ID NO: 471 is the determined cDNA sequence for clone 27705.
SEQ ID NO: 472 is the determined cDNA sequence for clone 27706.
SEQ ID NO: 473 is the determined cDNA sequence for clone 27707.
SEQ ID NO: 474 is the determined cDNA sequence for clone 27708.
SEQ ID NO: 475 is the determined cDNA sequence for clone 27709.

SEQ ID NO: 476 is the determined cDNA sequence for clone 27710.
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SEQ ID NO: 478 is the determined cDNA sequence for clone 27712.
SEQ ID NO: 479 is the determined cDNA sequence for clone 27713.
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SEQ ID NO: 481 is the determined cDNA sequence for clone 27715.
SEQ ID NO: 482 is the determined cDNA sequence for clone 27716.
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SEQ ID NO: 485 is the determined cDNA sequence for clone 27719.
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SEQ ID NO: 489 is the determined cDNA sequence for clone 27724.
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SEQ ID NO: 492 is the determined cDNA sequence for clone 25016.
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SEQ ID NO: 502 is the determined cDNA sequence for clone 25039.
SEQ ID NO: 503 is the determined cDNA sequence for clone 25040.
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SEQ ID NO: 505 is the determined cDNA sequence for clone 25043.

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SEQ ID NO: 513 is the determined cDNA sequence for clone 25187.
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SEQ ID NO: 532 is the determined cDNA sequence for clone 25373.
SEQ ID NO: 533 is the determined cDNA sequence for clone 25374.
SEQ ID NO: 534 is the determined cDNA sequence for clone 25376.
SEQ ID NO: 535 is the determined cDNA sequence for clone 25377.

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SEQ ID NO: 541 is the determined cDNA sequence for clone 25383.
SEQ ID NO: 542 is the determined cDNA sequence for clone 25385.
SEQ ID NO: 543 is the determined cDNA sequence for clone 25386.
SEQ ID NO: 544 is the determined cDNA sequence for clone 25387.
SEQ ID NO: 545 is the determined cDNA sequence for clone 26013.
SEQ ID NO: 546 is the determined cDNA sequence for clone 26014.
SEQ ID NO: 547 is the determined cDNA sequence for clone 26016.
SEQ ID NO: 548 is the determined cDNA sequence for clone 26017.
SEQ ID NO: 549 is the determined cDNA sequence for clone 26018.
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SEQ ID NO: 554 is the determined cDNA sequence for clone 26027.
SEQ ID NO: 555 is the determined cDNA sequence for clone 26197.
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SEQ ID NO: 557 is the determined cDNA sequence for clone 26201.
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SEQ ID NO: 561 is the determined cDNA sequence for clone 26205.
SEQ ID NO: 562 is the determined cDNA sequence for clone 26206.
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SEQ ID NO: 564 is the determined cDNA sequence for clone 26211.
SEQ ID NO: 565 is the determined cDNA sequence for clone 26212.

SEQ ID NO: 566 is the determined cDNA sequence for clone 26213.
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SEQ ID NO: 575 is the determined cDNA sequence for clone 26224.
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SEQ ID NO: 577 is the determined cDNA sequence for clone 26226.
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SEQ ID NO: 605 is the determined cDNA sequence for clone 26263.
SEQ ID NO: 606 is the determined cDNA sequence for clone 26264.
SEQ ID NO: 607 is the determined cDNA sequence for clone 26265.
SEQ ID NO: 608 is the determined cDNA sequence for clone 26266.
SEQ ID NO: 609 is the determined cDNA sequence for clone 26268.
SEQ ID NO: 610 is the determined cDNA sequence for clone 26269.
SEQ ID NO: 611 is the determined cDNA sequence for clone 26271.
SEQ ID NO: 612 is the determined cDNA sequence for clone 26273.
SEQ ID NO: 613 is the determined cDNA sequence for clone 26810.
SEQ ID NO: 614 is the determined cDNA sequence for clone 26811.
SEQ ID NO: 615 is the determined cDNA sequence for clone 26812.1.
SEQ ID NO: 616 is the determined cDNA sequence for clone 26812.2.
SEQ ID NO: 617 is the determined cDNA sequence for clone 26813.
SEQ ID NO: 618 is the determined cDNA sequence for clone 26814.
SEQ ID NO: 619 is the determined cDNA sequence for clone 26815.
SEQ ID NO: 620 is the determined cDNA sequence for clone 26816.
SEQ ID NO: 621 is the determined cDNA sequence for clone 26818.
SEQ ID NO: 622 is the determined cDNA sequence for clone 26819.
SEQ ID NO: 623 is the determined cDNA sequence for clone 26820.
SEQ ID NO: 624 is the determined cDNA sequence for clone 26821.
SEQ ID NO: 625 is the determined cDNA sequence for clone 26822.

SEQ ID NO: 626 is the determined cDNA sequence for clone 26824.
SEQ ID NO: 627 is the determined cDNA sequence for clone 26825.
SEQ ID NO: 628 is the determined cDNA sequence for clone 26826.
SEQ ID NO: 629 is the determined cDNA sequence for clone 26827.
SEQ ID NO: 630 is the determined cDNA sequence for clone 26829.
SEQ ID NO: 631 is the determined cDNA sequence for clone 26830.
SEQ ID NO: 632 is the determined cDNA sequence for clone 26831.
SEQ ID NO: 633 is the determined cDNA sequence for clone 26832.
SEQ ID NO: 634 is the determined cDNA sequence for clone 26835.
SEQ ID NO: 635 is the determined cDNA sequence for clone 26836.
SEQ ID NO: 636 is the determined cDNA sequence for clone 26837.
SEQ ID NO: 637 is the determined cDNA sequence for clone 26839.
SEQ ID NO: 638 is the determined cDNA sequence for clone 26841.
SEQ ID NO: 639 is the determined cDNA sequence for clone 26843.
SEQ ID NO: 640 is the determined cDNA sequence for clone 26844.
SEQ ID NO: 641 is the determined cDNA sequence for clone 26845.
SEQ ID NO: 642 is the determined cDNA sequence for clone 26846.
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SEQ ID NO: 644 is the determined cDNA sequence for clone 26848.
SEQ ID NO: 645 is the determined cDNA sequence for clone 26849.
SEQ ID NO: 646 is the determined cDNA sequence for clone 26850.
SEQ ID NO: 647 is the determined cDNA sequence for clone 26851.
SEQ ID NO: 648 is the determined cDNA sequence for clone 26852.
SEQ ID NO: 649 is the determined cDNA sequence for clone 26853.
SEQ ID NO: 650 is the determined cDNA sequence for clone 26854.
SEQ ID NO: 651 is the determined cDNA sequence for clone 26856.
SEQ ID NO: 652 is the determined cDNA sequence for clone 26857.
SEQ ID NO: 653 is the determined cDNA sequence for clone 26858.
SEQ ID NO: 654 is the determined cDNA sequence for clone 26859.
SEQ ID NO: 655 is the determined cDNA sequence for clone 26860.

SEQ ID NO: 656 is the determined cDNA sequence for clone 26862.
SEQ ID NO: 657 is the determined cDNA sequence for clone 26863.
SEQ ID NO: 658 is the determined cDNA sequence for clone 26864.
SEQ ID NO: 659 is the determined cDNA sequence for clone 26865.
SEQ ID NO: 660 is the determined cDNA sequence for clone 26867.
SEQ ID NO: 661 is the determined cDNA sequence for clone 26868.
SEQ ID NO: 662 is the determined cDNA sequence for clone 26871.
SEQ ID NO: 663 is the determined cDNA sequence for clone 26873.
SEQ ID NO: 664 is the determined cDNA sequence for clone 26875.
SEQ ID NO: 665 is the determined cDNA sequence for clone 26876.
SEQ ID NO: 666 is the determined cDNA sequence for clone 26877.
SEQ ID NO: 667 is the determined cDNA sequence for clone 26878.
SEQ ID NO: 668 is the determined cDNA sequence for clone 26880.
SEQ ID NO: 669 is the determined cDNA sequence for clone 26882.
SEQ ID NO: 670 is the determined cDNA sequence for clone 26883.
SEQ ID NO: 671 is the determined cDNA sequence for clone 26884.
SEQ ID NO: 672 is the determined cDNA sequence for clone 26885.
SEQ ID NO: 673 is the determined cDNA sequence for clone 26886.
SEQ ID NO: 674 is the determined cDNA sequence for clone 26887.
SEQ ID NO: 675 is the determined cDNA sequence for clone 26888.
SEQ ID NO: 676 is the determined cDNA sequence for clone 26889.
SEQ ID NO: 677 is the determined cDNA sequence for clone 26890.
SEQ ID NO: 678 is the determined cDNA sequence for clone 26892.
SEQ ID NO: 679 is the determined cDNA sequence for clone 26894.
SEQ ID NO: 680 is the determined cDNA sequence for clone 26895.
SEQ ID NO: 681 is the determined cDNA sequence for clone 26897.
SEQ ID NO: 682 is the determined cDNA sequence for clone 26898.
SEQ ID NO: 683 is the determined cDNA sequence for clone 26899.
SEQ ID NO: 684 is the determined cDNA sequence for clone 26900.
SEQ ID NO: 685 is the determined cDNA sequence for clone 26901.

SEQ ID NO: 686 is the determined cDNA sequence for clone 26903.
SEQ ID NO: 687 is the determined cDNA sequence for clone 26905.
SEQ ID NO: 688 is the determined cDNA sequence for clone 26906.
SEQ ID NO: 689 is the determined cDNA sequence for clone 26708.
SEQ ID NO: 690 is the determined cDNA sequence for clone 26709.
SEQ ID NO: 691 is the determined cDNA sequence for clone 26710.
SEQ ID NO: 692 is the determined cDNA sequence for clone 26711.
SEQ ID NO: 693 is the determined cDNA sequence for clone 26712.
SEQ ID NO: 694 is the determined cDNA sequence for clone 26713.
SEQ ID NO: 695 is the determined cDNA sequence for clone 26714.
SEQ ID NO: 696 is the determined cDNA sequence for clone 26715.
SEQ ID NO: 697 is the determined cDNA sequence for clone 26716.
SEQ ID NO: 698 is the determined cDNA sequence for clone 26717.
SEQ ID NO: 699 is the determined cDNA sequence for clone 26718.
SEQ ID NO: 700 is the determined cDNA sequence for clone 26719.
SEQ ID NO: 701 is the determined cDNA sequence for clone 26720.
SEQ ID NO: 702 is the determined cDNA sequence for clone 26721.
SEQ ID NO: 703 is the determined cDNA sequence for clone 26722.
SEQ ID NO: 704 is the determined cDNA sequence for clone 26723.
SEQ ID NO: 705 is the determined cDNA sequence for clone 26724.
SEQ ID NO: 706 is the determined cDNA sequence for clone 26725.
SEQ ID NO: 707 is the determined cDNA sequence for clone 26726.
SEQ ID NO: 708 is the determined cDNA sequence for clone 26727.
SEQ ID NO: 709 is the determined cDNA sequence for clone 26728.
SEQ ID NO: 710 is the determined cDNA sequence for clone 26729.
SEQ ID NO: 711 is the determined cDNA sequence for clone 26730.
SEQ ID NO: 712 is the determined cDNA sequence for clone 26731.
SEQ ID NO: 713 is the determined cDNA sequence for clone 26732.
SEQ ID NO: 714 is the determined cDNA sequence for clone 26733.1.
SEQ ID NO: 715 is the determined cDNA sequence for clone 26733.2.

SEQ ID NO: 716 is the determined cDNA sequence for clone 26734.
SEQ ID NO: 717 is the determined cDNA sequence for clone 26735.
SEQ ID NO: 718 is the determined cDNA sequence for clone 26736.
SEQ ID NO: 719 is the determined cDNA sequence for clone 26737.
SEQ ID NO: 720 is the determined cDNA sequence for clone 26738.
SEQ ID NO: 721 is the determined cDNA sequence for clone 26739.
SEQ ID NO: 722 is the determined cDNA sequence for clone 26741.
SEQ ID NO: 723 is the determined cDNA sequence for clone 26742.
SEQ ID NO: 724 is the determined cDNA sequence for clone 26743.
SEQ ID NO: 725 is the determined cDNA sequence for clone 26744.
SEQ ID NO: 726 is the determined cDNA sequence for clone 26745.
SEQ ID NO: 727 is the determined cDNA sequence for clone 26746.
SEQ ID NO: 728 is the determined cDNA sequence for clone 26747.
SEQ ID NO: 729 is the determined cDNA sequence for clone 26748.
SEQ ID NO: 730 is the determined cDNA sequence for clone 26749.
SEQ ID NO: 731 is the determined cDNA sequence for clone 26750.
SEQ ID NO: 732 is the determined cDNA sequence for clone 26751.
SEQ ID NO: 733 is the determined cDNA sequence for clone 26752.
SEQ ID NO: 734 is the determined cDNA sequence for clone 26753.
SEQ ID NO: 735 is the determined cDNA sequence for clone 26754.
SEQ ID NO: 736 is the determined cDNA sequence for clone 26755.
SEQ ID NO: 737 is the determined cDNA sequence for clone 26756.
SEQ ID NO: 738 is the determined cDNA sequence for clone 26757.
SEQ ID NO: 739 is the determined cDNA sequence for clone 26758.
SEQ ID NO: 740 is the determined cDNA sequence for clone 26759.
SEQ ID NO: 741 is the determined cDNA sequence for clone 26760.
SEQ ID NO: 742 is the determined cDNA sequence for clone 26761.
SEQ ID NO: 743 is the determined cDNA sequence for clone 26762.
SEQ ID NO: 744 is the determined cDNA sequence for clone 26763.
SEQ ID NO: 745 is the determined cDNA sequence for clone 26764.

SEQ ID NO: 746 is the determined cDNA sequence for clone 26765.
SEQ ID NO: 747 is the determined cDNA sequence for clone 26766.
SEQ ID NO: 748 is the determined cDNA sequence for clone 26767.
SEQ ID NO: 749 is the determined cDNA sequence for clone 26768.
SEQ ID NO: 750 is the determined cDNA sequence for clone 26769.
SEQ ID NO: 751 is the determined cDNA sequence for clone 26770.
SEQ ID NO: 752 is the determined cDNA sequence for clone 26771.
SEQ ID NO: 753 is the determined cDNA sequence for clone 26772.
SEQ ID NO: 754 is the determined cDNA sequence for clone 26773.
SEQ ID NO: 755 is the determined cDNA sequence for clone 26774.
SEQ ID NO: 756 is the determined cDNA sequence for clone 26775.
SEQ ID NO: 757 is the determined cDNA sequence for clone 26776.
SEQ ID NO: 758 is the determined cDNA sequence for clone 26777.
SEQ ID NO: 759 is the determined cDNA sequence for clone 26778.
SEQ ID NO: 760 is the determined cDNA sequence for clone 26779.
SEQ ID NO: 761 is the determined cDNA sequence for clone 26781.
SEQ ID NO: 762 is the determined cDNA sequence for clone 26782.
SEQ ID NO: 763 is the determined cDNA sequence for clone 26783.
SEQ ID NO: 764 is the determined cDNA sequence for clone 26784.
SEQ ID NO: 765 is the determined cDNA sequence for clone 26785.
SEQ ID NO: 766 is the determined cDNA sequence for clone 26786.
SEQ ID NO: 767 is the determined cDNA sequence for clone 26787.
SEQ ID NO: 768 is the determined cDNA sequence for clone 26788.
SEQ ID NO: 769 is the determined cDNA sequence for clone 26790.
SEQ ID NO: 770 is the determined cDNA sequence for clone 26791.
SEQ ID NO: 771 is the determined cDNA sequence for clone 26792.
SEQ ID NO: 772 is the determined cDNA sequence for clone 26793.
SEQ ID NO: 773 is the determined cDNA sequence for clone 26794.
SEQ ID NO: 774 is the determined cDNA sequence for clone 26795.
SEQ ID NO: 775 is the determined cDNA sequence for clone 26796.

SEQ ID NO: 776 is the determined cDNA sequence for clone 26797.

SEQ ID NO: 777 is the determined cDNA sequence for clone 26798.

SEQ ID NO: 778 is the determined cDNA sequence for clone 26800.

SEQ ID NO: 779 is the determined cDNA sequence for clone 26801.

SEQ ID NO: 780 is the determined cDNA sequence for clone 26802.

SEQ ID NO: 781 is the determined cDNA sequence for clone 26803.

SEQ ID NO: 782 is the determined cDNA sequence for clone 26804.

SEQ ID NO: 783 is the amino acid sequence for L773P.

SEQ ID NO: 784 is the determined DNA sequence of the L773P expression construct.

SEQ ID NO: 785 is the determined DNA sequence of the L773PA expression construct.

SEQ ID NO: 786 is a predicted amino acid sequence for L552S.

SEQ ID NO: 787 is a predicted amino acid sequence for L840P.

SEQ ID NO: 788 is the full-length cDNA sequence for L548S.

SEQ ID NO: 789 is the amino acid sequence encoded by SEQ ID NO: 788.

DETAILED DESCRIPTION OF THE INVENTION

As noted above, the present invention is generally directed to compositions and methods for the therapy and diagnosis of cancer, such as lung cancer. The compositions described herein may include lung tumor polypeptides, polynucleotides encoding such polypeptides, binding agents such as antibodies, antigen presenting cells (APCs) and/or immune system cells (*e.g.*, T cells). Polypeptides of the present invention generally comprise at least a portion (such as an immunogenic portion) of a lung tumor protein or a variant thereof. As used herein, a "lung tumor protein" is a protein that is expressed in lung tumor cells at a level that is at least two fold, and preferably at least five fold, greater than the level of expression in a normal tissue, as determined using a representative assay provided herein. Certain lung tumor proteins are tumor proteins that react detectably (within an immunoassay, such as an ELISA or Western blot) with antisera of a patient afflicted with lung cancer. Polynucleotides of the subject

invention generally comprise a DNA or RNA sequence that encodes all or a portion of such a polypeptide, or that is complementary to such a sequence. Antibodies are generally immune system proteins, or antigen-binding fragments thereof, that are capable of binding to a polypeptide as described above. Antigen presenting cells include dendritic cells and macrophages that express a polypeptide as described above. T cells that may be employed within such compositions are generally T cells that are specific for a polypeptide as described above.

The present invention is based on the discovery of human lung tumor proteins. Partial and/or full-length sequences of polynucleotides encoding specific tumor proteins are provided in SEQ ID NO:1-782, 784, 785 and 788.

LUNG TUMOR PROTEIN POLYNUCLEOTIDES

Any polynucleotide that encodes a lung tumor protein or a portion or other variant thereof as described herein is encompassed by the present invention. Preferred polynucleotides comprise at least 15 consecutive nucleotides, preferably at least 30 consecutive nucleotides and more preferably at least 45 consecutive nucleotides, of a sequence that encodes a portion of a lung tumor protein. More preferably, a polynucleotide encodes an immunogenic portion of a lung tumor protein. Polynucleotides complementary to any such sequences are also encompassed by the present invention. Polynucleotides may be single-stranded (coding or antisense) or double-stranded, and may be DNA (genomic, cDNA or synthetic) or RNA molecules. RNA molecules include HnRNA molecules, which contain introns and correspond to a DNA molecule in a one-to-one manner, and mRNA molecules, which do not contain introns. Additional coding or non-coding sequences may, but need not, be present within a polynucleotide of the present invention, and a polynucleotide may, but need not, be linked to other molecules and/or support materials.

Polynucleotides may comprise a native sequence (*i.e.*, an endogenous sequence that encodes a lung tumor protein or a portion thereof) or may comprise a variant of such a sequence. Polynucleotide variants may contain one or more substitutions, additions, deletions and/or insertions such that the immunogenicity of the encoded polypeptide is not diminished, relative to a native tumor protein. The effect on the immunogenicity of the encoded polypeptide

Two polynucleotide or polypeptide sequences are said to be “identical” if the sequence of nucleotides or amino acids in the two sequences is the same when aligned for maximum correspondence as described below. Comparisons between two sequences are typically performed by comparing the sequences over a comparison window to identify and compare local regions of sequence similarity. A “comparison window” as used herein, refers to a segment of at least about 20 contiguous positions, usually 30 to about 75, 40 to about 50, in which a sequence may be compared to a reference sequence of the same number of contiguous positions after the two sequences are optimally aligned.

Preferably, the “percentage of sequence identity” is determined by comparing two optimally aligned sequences over a window of comparison of at least 20 positions, wherein the portion of the polynucleotide or polypeptide sequence in the comparison window may comprise additions or deletions (i.e. gaps) of 20 percent or less, usually 5 to 15 percent, or 10 to 12 percent, as compared to the reference sequences (which does not comprise additions or deletions)

for optimal alignment of the two sequences. The percentage is calculated by determining the number of positions at which the identical nucleic acid bases or amino acid residue occurs in both sequences to yield the number of matched positions, dividing the number of matched positions by the total number of positions in the reference sequence (i.e. the window size) and multiplying the results by 100 to yield the percentage of sequence identity.

Variants may also, or alternatively, be substantially homologous to a native gene, or a portion or complement thereof. Such polynucleotide variants are capable of hybridizing under moderately stringent conditions to a naturally occurring DNA sequence encoding a native lung tumor protein (or a complementary sequence). Suitable moderately stringent conditions include prewashing in a solution of 5 X SSC, 0.5% SDS, 1.0 mM EDTA (pH 8.0); hybridizing at 50°C-65°C, 5 X SSC, overnight; followed by washing twice at 65°C for 20 minutes with each of 2X, 0.5X and 0.2X SSC containing 0.1% SDS.

It will be appreciated by those of ordinary skill in the art that, as a result of the degeneracy of the genetic code, there are many nucleotide sequences that encode a polypeptide as described herein. Some of these polynucleotides bear minimal homology to the nucleotide sequence of any native gene. Nonetheless, polynucleotides that vary due to differences in codon usage are specifically contemplated by the present invention. Further, alleles of the genes comprising the polynucleotide sequences provided herein are within the scope of the present invention. Alleles are endogenous genes that are altered as a result of one or more mutations, such as deletions, additions and/or substitutions of nucleotides. The resulting mRNA and protein may, but need not, have an altered structure or function. Alleles may be identified using standard techniques (such as hybridization, amplification and/or database sequence comparison).

Polynucleotides may be prepared using any of a variety of techniques. For example, a polynucleotide may be identified, as described in more detail below, by screening a microarray of cDNAs for tumor-associated expression (*i.e.*, expression that is at least five fold greater in a lung tumor than in normal tissue, as determined using a representative assay provided herein). Such screens may be performed using an Incyte microarray (Palo Alto, CA) according to the manufacturer's instructions (and essentially as described by Schena et al., *Proc. Natl. Acad. Sci. USA* 93:10614-10619, 1996 and Heller et al., *Proc. Natl. Acad. Sci. USA* 94:2150-2155, 1997). Alternatively, polypeptides may be amplified from cDNA prepared from cells expressing

the proteins described herein, such as lung tumor cells. Such polynucleotides may be amplified via polymerase chain reaction (PCR). For this approach, sequence-specific primers may be designed based on the sequences provided herein, and may be purchased or synthesized.

An amplified portion may be used to isolate a full length gene from a suitable library (e.g., a lung tumor cDNA library) using well known techniques. Within such techniques, a library (cDNA or genomic) is screened using one or more polynucleotide probes or primers suitable for amplification. Preferably, a library is size-selected to include larger molecules. Random primed libraries may also be preferred for identifying 5' and upstream regions of genes. Genomic libraries are preferred for obtaining introns and extending 5' sequences.

For hybridization techniques, a partial sequence may be labeled (e.g., by nick-translation or end-labeling with ^{32}P) using well known techniques. A bacterial or bacteriophage library is then screened by hybridizing filters containing denatured bacterial colonies (or lawns containing phage plaques) with the labeled probe (see Sambrook et al., *Molecular Cloning: A Laboratory Manual*, Cold Spring Harbor Laboratories, Cold Spring Harbor, NY, 1989). Hybridizing colonies or plaques are selected and expanded, and the DNA is isolated for further analysis. cDNA clones may be analyzed to determine the amount of additional sequence by, for example, PCR using a primer from the partial sequence and a primer from the vector. Restriction maps and partial sequences may be generated to identify one or more overlapping clones. The complete sequence may then be determined using standard techniques, which may involve generating a series of deletion clones. The resulting overlapping sequences are then assembled into a single contiguous sequence. A full length cDNA molecule can be generated by ligating suitable fragments, using well known techniques.

Alternatively, there are numerous amplification techniques for obtaining a full length coding sequence from a partial cDNA sequence. Within such techniques, amplification is generally performed via PCR. Any of a variety of commercially available kits may be used to perform the amplification step. Primers may be designed using, for example, software well known in the art. Primers are preferably 22-30 nucleotides in length, have a GC content of at least 50% and anneal to the target sequence at temperatures of about 68°C to 72°C. The amplified region may be sequenced as described above, and overlapping sequences assembled into a contiguous sequence.

One such amplification technique is inverse PCR (*see* Triglia et al., *Nucl. Acids Res.* 16:8186, 1988), which uses restriction enzymes to generate a fragment in the known region of the gene. The fragment is then circularized by intramolecular ligation and used as a template for PCR with divergent primers derived from the known region. Within an alternative approach, sequences adjacent to a partial sequence may be retrieved by amplification with a primer to a linker sequence and a primer specific to a known region. The amplified sequences are typically subjected to a second round of amplification with the same linker primer and a second primer specific to the known region. A variation on this procedure, which employs two primers that initiate extension in opposite directions from the known sequence, is described in WO 96/38591. Another such technique is known as "rapid amplification of cDNA ends" or RACE. This technique involves the use of an internal primer and an external primer, which hybridizes to a polyA region or vector sequence, to identify sequences that are 5' and 3' of a known sequence. Additional techniques include capture PCR (Lagerstrom et al., *PCR Methods Applic.* 1:111-19, 1991) and walking PCR (Parker et al., *Nucl. Acids. Res.* 19:3055-60, 1991). Other methods employing amplification may also be employed to obtain a full length cDNA sequence.

In certain instances, it is possible to obtain a full length cDNA sequence by analysis of sequences provided in an expressed sequence tag (EST) database, such as that available from GenBank. Searches for overlapping ESTs may generally be performed using well known programs (*e.g.*, NCBI BLAST searches), and such ESTs may be used to generate a contiguous full length sequence.

Certain nucleic acid sequences of cDNA molecules encoding portions of lung tumor proteins are provided in SEQ ID NO: 1-782, 784, 785 and 788. These polynucleotides were isolated from lung tumor cDNA libraries using conventional and/or PCR-based subtraction techniques, as described below.

Polynucleotide variants may generally be prepared by any method known in the art, including chemical synthesis by, for example, solid phase phosphoramidite chemical synthesis. Modifications in a polynucleotide sequence may also be introduced using standard mutagenesis techniques, such as oligonucleotide-directed site-specific mutagenesis (*see* Adelman et al., *DNA* 2:183, 1983). Alternatively, RNA molecules may be generated by *in vitro* or *in vivo* transcription of DNA sequences encoding a lung tumor protein, or portion thereof, provided that

the DNA is incorporated into a vector with a suitable RNA polymerase promoter (such as T7 or SP6). Certain portions may be used to prepare an encoded polypeptide, as described herein. In addition, or alternatively, a portion may be administered to a patient such that the encoded polypeptide is generated *in vivo* (e.g., by transfecting antigen-presenting cells, such as dendritic cells, with a cDNA construct encoding a lung tumor polypeptide, and administering the transfected cells to the patient).

A portion of a sequence complementary to a coding sequence (*i.e.*, an antisense polynucleotide) may also be used as a probe or to modulate gene expression. cDNA constructs that can be transcribed into antisense RNA may also be introduced into cells of tissues to facilitate the production of antisense RNA. An antisense polynucleotide may be used, as described herein, to inhibit expression of a tumor protein. Antisense technology can be used to control gene expression through triple-helix formation, which compromises the ability of the double helix to open sufficiently for the binding of polymerases, transcription factors or regulatory molecules (*see* Gee et al., *In Huber and Carr, Molecular and Immunologic Approaches*, Futura Publishing Co. (Mt. Kisco, NY; 1994)). Alternatively, an antisense molecule may be designed to hybridize with a control region of a gene (*e.g.*, promoter, enhancer or transcription initiation site), and block transcription of the gene; or to block translation by inhibiting binding of a transcript to ribosomes.

A portion of a coding sequence, or of a complementary sequence, may also be designed as a probe or primer to detect gene expression. Probes may be labeled with a variety of reporter groups, such as radionuclides and enzymes, and are preferably at least 10 nucleotides in length, more preferably at least 20 nucleotides in length and still more preferably at least 30 nucleotides in length. Primers, as noted above, are preferably 22-30 nucleotides in length.

Any polynucleotide may be further modified to increase stability *in vivo*. Possible modifications include, but are not limited to, the addition of flanking sequences at the 5' and/or 3' ends; the use of phosphorothioate or 2' O-methyl rather than phosphodiesterase linkages in the backbone; and/or the inclusion of nontraditional bases such as inosine, queosine and wybutosine, as well as acetyl- methyl-, thio- and other modified forms of adenine, cytidine, guanine, thymine and uridine.

Nucleotide sequences as described herein may be joined to a variety of other nucleotide sequences using established recombinant DNA techniques. For example, a polynucleotide may be cloned into any of a variety of cloning vectors, including plasmids, phagemids, lambda phage derivatives and cosmids. Vectors of particular interest include expression vectors, replication vectors, probe generation vectors and sequencing vectors. In general, a vector will contain an origin of replication functional in at least one organism, convenient restriction endonuclease sites and one or more selectable markers. Other elements will depend upon the desired use, and will be apparent to those of ordinary skill in the art.

Within certain embodiments, polynucleotides may be formulated so as to permit entry into a cell of a mammal, and expression therein. Such formulations are particularly useful for therapeutic purposes, as described below. Those of ordinary skill in the art will appreciate that there are many ways to achieve expression of a polynucleotide in a target cell, and any suitable method may be employed. For example, a polynucleotide may be incorporated into a viral vector such as, but not limited to, adenovirus, adeno-associated virus, retrovirus, or vaccinia or other pox virus (*e.g.*, avian pox virus). Techniques for incorporating DNA into such vectors are well known to those of ordinary skill in the art. A retroviral vector may additionally transfer or incorporate a gene for a selectable marker (to aid in the identification or selection of transduced cells) and/or a targeting moiety, such as a gene that encodes a ligand for a receptor on a specific target cell, to render the vector target specific. Targeting may also be accomplished using an antibody, by methods known to those of ordinary skill in the art.

Other formulations for therapeutic purposes include colloidal dispersion systems, such as macromolecule complexes, nanocapsules, microspheres, beads, and lipid-based systems including oil-in-water emulsions, micelles, mixed micelles, and liposomes. A preferred colloidal system for use as a delivery vehicle *in vitro* and *in vivo* is a liposome (*i.e.*, an artificial membrane vesicle). The preparation and use of such systems is well known in the art.

LUNG TUMOR POLYPEPTIDES

Within the context of the present invention, polypeptides may comprise at least an immunogenic portion of a lung tumor protein or a variant thereof, as described herein. As noted above, a "lung tumor protein" is a protein that is expressed by lung tumor cells. Lung tumor

proteins also react detectably within an immunoassay (such as an ELISA) with antisera from a patient with lung cancer. Polypeptides as described herein may be of any length. Additional sequences derived from the native protein and/or heterologous sequences may be present, and such sequences may (but need not) possess further immunogenic or antigenic properties.

An "immunogenic portion," as used herein is a portion of a protein that is recognized (*i.e.*, specifically bound) by a B-cell and/or T-cell surface antigen receptor. Such immunogenic portions generally comprise at least 5 amino acid residues, more preferably at least 10, and still more preferably at least 20 amino acid residues, of a lung tumor protein or a variant thereof. Certain preferred immunogenic portions include peptides in which an N-terminal leader sequence and/or transmembrane domain have been deleted. Other preferred immunogenic portions may contain a small N- and/or C-terminal deletion (*e.g.*, 1-30 amino acids, preferably 5-15 amino acids), relative to the mature protein.

Immunogenic portions may generally be identified using well known techniques, such as those summarized in Paul, *Fundamental Immunology*, 3rd ed., 243-247 (Raven Press, 1993) and references cited therein. Such techniques include screening polypeptides for the ability to react with antigen-specific antibodies, antisera and/or T-cell lines or clones. As used herein, antisera and antibodies are "antigen-specific" if they specifically bind to an antigen (*i.e.*, they react with the protein in an ELISA or other immunoassay, and do not react detectably with unrelated proteins). Such antisera and antibodies may be prepared as described herein, and using well known techniques. An immunogenic portion of a native lung tumor protein is a portion that reacts with such antisera and/or T-cells at a level that is not substantially less than the reactivity of the full length polypeptide (*e.g.*, in an ELISA and/or T-cell reactivity assay). Such immunogenic portions may react within such assays at a level that is similar to or greater than the reactivity of the full length polypeptide. Such screens may generally be performed using methods well known to those of ordinary skill in the art, such as those described in Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988. For example, a polypeptide may be immobilized on a solid support and contacted with patient sera to allow binding of antibodies within the sera to the immobilized polypeptide. Unbound sera may then be removed and bound antibodies detected using, for example, ¹²⁵I-labeled Protein A.

As noted above, a composition may comprise a variant of a native lung tumor protein. A polypeptide "variant," as used herein, is a polypeptide that differs from a native lung tumor protein in one or more substitutions, deletions, additions and/or insertions, such that the immunogenicity of the polypeptide is not substantially diminished. In other words, the ability of a variant to react with antigen-specific antisera may be enhanced or unchanged, relative to the native protein, or may be diminished by less than 50%, and preferably less than 20%, relative to the native protein. Such variants may generally be identified by modifying one of the above polypeptide sequences and evaluating the reactivity of the modified polypeptide with antigen-specific antibodies or antisera as described herein. Preferred variants include those in which one or more portions, such as an N-terminal leader sequence or transmembrane domain, have been removed. Other preferred variants include variants in which a small portion (*e.g.*, 1-30 amino acids, preferably 5-15 amino acids) has been removed from the N- and/or C-terminal of the mature protein.

Polypeptide variants preferably exhibit at least about 70%, more preferably at least about 90% and most preferably at least about 95% identity (determined as described above) to the identified polypeptides.

Preferably, a variant contains conservative substitutions. A "conservative substitution" is one in which an amino acid is substituted for another amino acid that has similar properties, such that one skilled in the art of peptide chemistry would expect the secondary structure and hydrophobic nature of the polypeptide to be substantially unchanged. Amino acid substitutions may generally be made on the basis of similarity in polarity, charge, solubility, hydrophobicity, hydrophilicity and/or the amphipathic nature of the residues. For example, negatively charged amino acids include aspartic acid and glutamic acid; positively charged amino acids include lysine and arginine; and amino acids with uncharged polar head groups having similar hydrophilicity values include leucine, isoleucine and valine; glycine and alanine; asparagine and glutamine; and serine, threonine, phenylalanine and tyrosine. Other groups of amino acids that may represent conservative changes include: (1) ala, pro, gly, glu, asp, gln, asn, ser, thr; (2) cys, ser, tyr, thr; (3) val, ile, leu, met, ala, phe; (4) lys, arg, his; and (5) phe, tyr, trp, his. A variant may also, or alternatively, contain nonconservative changes. In a preferred embodiment, variant polypeptides differ from a native sequence by substitution, deletion or

addition of five amino acids or fewer. Variants may also (or alternatively) be modified by, for example, the deletion or addition of amino acids that have minimal influence on the immunogenicity, secondary structure and hydrophobic nature of the polypeptide.

As noted above, polypeptides may comprise a signal (or leader) sequence at the N-terminal end of the protein which co-translationally or post-translationally directs transfer of the protein. The polypeptide may also be conjugated to a linker or other sequence for ease of synthesis, purification or identification of the polypeptide (*e.g.*, poly-His), or to enhance binding of the polypeptide to a solid support. For example, a polypeptide may be conjugated to an immunoglobulin Fc region.

Polypeptides may be prepared using any of a variety of well known techniques. Recombinant polypeptides encoded by DNA sequences as described above may be readily prepared from the DNA sequences using any of a variety of expression vectors known to those of ordinary skill in the art. Expression may be achieved in any appropriate host cell that has been transformed or transfected with an expression vector containing a DNA molecule that encodes a recombinant polypeptide. Suitable host cells include prokaryotes, yeast and higher eukaryotic cells. Preferably, the host cells employed are *E. coli*, yeast or a mammalian cell line such as COS or CHO. Supernatants from suitable host/vector systems which secrete recombinant protein or polypeptide into culture media may be first concentrated using a commercially available filter. Following concentration, the concentrate may be applied to a suitable purification matrix such as an affinity matrix or an ion exchange resin. Finally, one or more reverse phase HPLC steps can be employed to further purify a recombinant polypeptide.

Portions and other variants having fewer than about 100 amino acids, and generally fewer than about 50 amino acids, may also be generated by synthetic means, using techniques well known to those of ordinary skill in the art. For example, such polypeptides may be synthesized using any of the commercially available solid-phase techniques, such as the Merrifield solid-phase synthesis method, where amino acids are sequentially added to a growing amino acid chain. See Merrifield, *J. Am. Chem. Soc.* 85:2149-2146, 1963. Equipment for automated synthesis of polypeptides is commercially available from suppliers such as Perkin Elmer/Applied BioSystems Division (Foster City, CA), and may be operated according to the manufacturer's instructions.

Within certain specific embodiments, a polypeptide may be a fusion protein that comprises multiple polypeptides as described herein, or that comprises at least one polypeptide as described herein and an unrelated sequence, such as a known tumor protein. A fusion partner may, for example, assist in providing T helper epitopes (an immunological fusion partner), preferably T helper epitopes recognized by humans, or may assist in expressing the protein (an expression enhancer) at higher yields than the native recombinant protein. Certain preferred fusion partners are both immunological and expression enhancing fusion partners. Other fusion partners may be selected so as to increase the solubility of the protein or to enable the protein to be targeted to desired intracellular compartments. Still further fusion partners include affinity tags, which facilitate purification of the protein.

Fusion proteins may generally be prepared using standard techniques, including chemical conjugation. Preferably, a fusion protein is expressed as a recombinant protein, allowing the production of increased levels, relative to a non-fused protein, in an expression system. Briefly, DNA sequences encoding the polypeptide components may be assembled separately, and ligated into an appropriate expression vector. The 3' end of the DNA sequence encoding one polypeptide component is ligated, with or without a peptide linker, to the 5' end of a DNA sequence encoding the second polypeptide component so that the reading frames of the sequences are in phase. This permits translation into a single fusion protein that retains the biological activity of both component polypeptides.

A peptide linker sequence may be employed to separate the first and the second polypeptide components by a distance sufficient to ensure that each polypeptide folds into its secondary and tertiary structures. Such a peptide linker sequence is incorporated into the fusion protein using standard techniques well known in the art. Suitable peptide linker sequences may be chosen based on the following factors: (1) their ability to adopt a flexible extended conformation; (2) their inability to adopt a secondary structure that could interact with functional epitopes on the first and second polypeptides; and (3) the lack of hydrophobic or charged residues that might react with the polypeptide functional epitopes. Preferred peptide linker sequences contain Gly, Asn and Ser residues. Other near neutral amino acids, such as Thr and Ala may also be used in the linker sequence. Amino acid sequences which may be usefully employed as linkers include those disclosed in Maratea et al., *Gene* 40:39-46, 1985; Murphy

et al., *Proc. Natl. Acad. Sci. USA* 83:8258-8262, 1986; U.S. Patent No. 4,935,233 and U.S. Patent No. 4,751,180. The linker sequence may generally be from 1 to about 50 amino acids in length. Linker sequences are not required when the first and second polypeptides have non-essential N-terminal amino acid regions that can be used to separate the functional domains and prevent steric interference.

The ligated DNA sequences are operably linked to suitable transcriptional or translational regulatory elements. The regulatory elements responsible for expression of DNA are located only 5' to the DNA sequence encoding the first polypeptides. Similarly, stop codons required to end translation and transcription termination signals are only present 3' to the DNA sequence encoding the second polypeptide.

Fusion proteins are also provided that comprise a polypeptide of the present invention together with an unrelated immunogenic protein. Preferably the immunogenic protein is capable of eliciting a recall response. Examples of such proteins include tetanus, tuberculosis and hepatitis proteins (*see*, for example, Stoute et al. *New Engl. J. Med.*, 336:86-91, 1997).

Within preferred embodiments, an immunological fusion partner is derived from protein D, a surface protein of the gram-negative bacterium *Haemophilus influenza B* (WO 91/18926). Preferably, a protein D derivative comprises approximately the first third of the protein (*e.g.*, the first N-terminal 100-110 amino acids), and a protein D derivative may be lipidated. Within certain preferred embodiments, the first 109 residues of a Lipoprotein D fusion partner is included on the N-terminus to provide the polypeptide with additional exogenous T-cell epitopes and to increase the expression level in *E. coli* (thus functioning as an expression enhancer). The lipid tail ensures optimal presentation of the antigen to antigen present cells. Other fusion partners include the non-structural protein from influenzae virus, NS1 (hemagglutinin). Typically, the N-terminal 81 amino acids are used, although different fragments that include T-helper epitopes may be used.

In another embodiment, the immunological fusion partner is the protein known as LYTA, or a portion thereof (preferably a C-terminal portion). LYTA is derived from *Streptococcus pneumoniae*, which synthesizes an N-acetyl-L-alanine amidase known as amidase LYTA (encoded by the *LytA* gene; *Gene* 43:265-292, 1986). LYTA is an autolysin that specifically degrades certain bonds in the peptidoglycan backbone. The C-terminal domain of

the LYTA protein is responsible for the affinity to the choline or to some choline analogues such as DEAE. This property has been exploited for the development of *E. coli* C-LYTA expressing plasmids useful for expression of fusion proteins. Purification of hybrid proteins containing the C-LYTA fragment at the amino terminus has been described (*see Biotechnology 10:795-798, 1992*). Within a preferred embodiment, a repeat portion of LYTA may be incorporated into a fusion protein. A repeat portion is found in the C-terminal region starting at residue 178. A particularly preferred repeat portion incorporates residues 188-305.

In general, polypeptides (including fusion proteins) and polynucleotides as described herein are isolated. An "isolated" polypeptide or polynucleotide is one that is removed from its original environment. For example, a naturally-occurring protein is isolated if it is separated from some or all of the coexisting materials in the natural system. Preferably, such polypeptides are at least about 90% pure, more preferably at least about 95% pure and most preferably at least about 99% pure. A polynucleotide is considered to be isolated if, for example, it is cloned into a vector that is not a part of the natural environment.

BINDING AGENTS

The present invention further provides agents, such as antibodies and antigen-binding fragments thereof, that specifically bind to a lung tumor protein. As used herein, an antibody, or antigen-binding fragment thereof, is said to "specifically bind" to a lung tumor protein if it reacts at a detectable level (within, for example, an ELISA) with a lung tumor protein, and does not react detectably with unrelated proteins under similar conditions. As used herein, "binding" refers to a noncovalent association between two separate molecules such that a complex is formed. The ability to bind may be evaluated by, for example, determining a binding constant for the formation of the complex. The binding constant is the value obtained when the concentration of the complex is divided by the product of the component concentrations. In general, two compounds are said to "bind," in the context of the present invention, when the binding constant for complex formation exceeds about 10^3 L/mol. The binding constant may be determined using methods well known in the art.

Binding agents may be further capable of differentiating between patients with and without a cancer, such as lung cancer, using the representative assays provided herein. In

other words, antibodies or other binding agents that bind to a lung tumor protein will generate a signal indicating the presence of a cancer in at least about 20% of patients with the disease, and will generate a negative signal indicating the absence of the disease in at least about 90% of individuals without the cancer. To determine whether a binding agent satisfies this requirement, biological samples (e.g., blood, sera, urine, sputum and/or tumor biopsies) from patients with and without a cancer (as determined using standard clinical tests) may be assayed as described herein for the presence of polypeptides that bind to the binding agent. It will be apparent that a statistically significant number of samples with and without the disease should be assayed. Each binding agent should satisfy the above criteria; however, those of ordinary skill in the art will recognize that binding agents may be used in combination to improve sensitivity.

Any agent that satisfies the above requirements may be a binding agent. For example, a binding agent may be a ribosome, with or without a peptide component, an RNA molecule or a polypeptide. In a preferred embodiment, a binding agent is an antibody or an antigen-binding fragment thereof. Antibodies may be prepared by any of a variety of techniques known to those of ordinary skill in the art. See, e.g., Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988. In general, antibodies can be produced by cell culture techniques, including the generation of monoclonal antibodies as described herein, or via transfection of antibody genes into suitable bacterial or mammalian cell hosts, in order to allow for the production of recombinant antibodies. In one technique, an immunogen comprising the polypeptide is initially injected into any of a wide variety of mammals (e.g., mice, rats, rabbits, sheep or goats). In this step, the polypeptides of this invention may serve as the immunogen without modification. Alternatively, particularly for relatively short polypeptides, a superior immune response may be elicited if the polypeptide is joined to a carrier protein, such as bovine serum albumin or keyhole limpet hemocyanin. The immunogen is injected into the animal host, preferably according to a predetermined schedule incorporating one or more booster immunizations, and the animals are bled periodically. Polyclonal antibodies specific for the polypeptide may then be purified from such antisera by, for example, affinity chromatography using the polypeptide coupled to a suitable solid support.

Monoclonal antibodies specific for an antigenic polypeptide of interest may be prepared, for example, using the technique of Kohler and Milstein, *Eur. J. Immunol.* 6:511-519,

1976, and improvements thereto. Briefly, these methods involve the preparation of immortal cell lines capable of producing antibodies having the desired specificity (*i.e.*, reactivity with the polypeptide of interest). Such cell lines may be produced, for example, from spleen cells obtained from an animal immunized as described above. The spleen cells are then immortalized by, for example, fusion with a myeloma cell fusion partner, preferably one that is syngeneic with the immunized animal. A variety of fusion techniques may be employed. For example, the spleen cells and myeloma cells may be combined with a nonionic detergent for a few minutes and then plated at low density on a selective medium that supports the growth of hybrid cells, but not myeloma cells. A preferred selection technique uses HAT (hypoxanthine, aminopterin, thymidine) selection. After a sufficient time, usually about 1 to 2 weeks, colonies of hybrids are observed. Single colonies are selected and their culture supernatants tested for binding activity against the polypeptide. Hybridomas having high reactivity and specificity are preferred.

Monoclonal antibodies may be isolated from the supernatants of growing hybridoma colonies. In addition, various techniques may be employed to enhance the yield, such as injection of the hybridoma cell line into the peritoneal cavity of a suitable vertebrate host, such as a mouse. Monoclonal antibodies may then be harvested from the ascites fluid or the blood. Contaminants may be removed from the antibodies by conventional techniques, such as chromatography, gel filtration, precipitation, and extraction. The polypeptides of this invention may be used in the purification process in, for example, an affinity chromatography step.

Within certain embodiments, the use of antigen-binding fragments of antibodies may be preferred. Such fragments include Fab fragments, which may be prepared using standard techniques. Briefly, immunoglobulins may be purified from rabbit serum by affinity chromatography on Protein A bead columns (Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988) and digested by papain to yield Fab and Fc fragments. The Fab and Fc fragments may be separated by affinity chromatography on protein A bead columns.

Monoclonal antibodies of the present invention may be coupled to one or more therapeutic agents. Suitable agents in this regard include radionuclides, differentiation inducers, drugs, toxins, and derivatives thereof. Preferred radionuclides include ^{90}Y , ^{123}I , ^{125}I , ^{131}I , ^{186}Re , ^{188}Re , ^{211}At , and ^{212}Bi . Preferred drugs include methotrexate, and pyrimidine and purine analogs.

Preferred differentiation inducers include phorbol esters and butyric acid. Preferred toxins include ricin, abrin, diphtheria toxin, cholera toxin, gelonin, *Pseudomonas* exotoxin, *Shigella* toxin, and pokeweed antiviral protein.

A therapeutic agent may be coupled (*e.g.*, covalently bonded) to a suitable monoclonal antibody either directly or indirectly (*e.g.*, via a linker group). A direct reaction between an agent and an antibody is possible when each possesses a substituent capable of reacting with the other. For example, a nucleophilic group, such as an amino or sulfhydryl group, on one may be capable of reacting with a carbonyl-containing group, such as an anhydride or an acid halide, or with an alkyl group containing a good leaving group (*e.g.*, a halide) on the other.

Alternatively, it may be desirable to couple a therapeutic agent and an antibody via a linker group. A linker group can function as a spacer to distance an antibody from an agent in order to avoid interference with binding capabilities. A linker group can also serve to increase the chemical reactivity of a substituent on an agent or an antibody, and thus increase the coupling efficiency. An increase in chemical reactivity may also facilitate the use of agents, or functional groups on agents, which otherwise would not be possible.

It will be evident to those skilled in the art that a variety of bifunctional or polyfunctional reagents, both homo- and hetero-functional (such as those described in the catalog of the Pierce Chemical Co., Rockford, IL), may be employed as the linker group. Coupling may be effected, for example, through amino groups, carboxyl groups, sulfhydryl groups or oxidized carbohydrate residues. There are numerous references describing such methodology, *e.g.*, U.S. Patent No. 4,671,958, to Rodwell et al.

Where a therapeutic agent is more potent when free from the antibody portion of the immunoconjugates of the present invention, it may be desirable to use a linker group which is cleavable during or upon internalization into a cell. A number of different cleavable linker groups have been described. The mechanisms for the intracellular release of an agent from these linker groups include cleavage by reduction of a disulfide bond (*e.g.*, U.S. Patent No. 4,489,710, to Spitler), by irradiation of a photolabile bond (*e.g.*, U.S. Patent No. 4,625,014, to Senter et al.), by hydrolysis of derivatized amino acid side chains (*e.g.*, U.S. Patent No. 4,638,045, to Kohn

et al.), by serum complement-mediated hydrolysis (e.g., U.S. Patent No. 4,671,958, to Rodwell et al.), and acid-catalyzed hydrolysis (e.g., U.S. Patent No. 4,569,789, to Blattler et al.).

It may be desirable to couple more than one agent to an antibody. In one embodiment, multiple molecules of an agent are coupled to one antibody molecule. In another embodiment, more than one type of agent may be coupled to one antibody. Regardless of the particular embodiment, immunoconjugates with more than one agent may be prepared in a variety of ways. For example, more than one agent may be coupled directly to an antibody molecule, or linkers which provide multiple sites for attachment can be used. Alternatively, a carrier can be used.

A carrier may bear the agents in a variety of ways, including covalent bonding either directly or via a linker group. Suitable carriers include proteins such as albumins (e.g., U.S. Patent No. 4,507,234, to Kato et al.), peptides and polysaccharides such as aminodextran (e.g., U.S. Patent No. 4,699,784, to Shih et al.). A carrier may also bear an agent by noncovalent bonding or by encapsulation, such as within a liposome vesicle (e.g., U.S. Patent Nos. 4,429,008 and 4,873,088). Carriers specific for radionuclide agents include radiohalogenated small molecules and chelating compounds. For example, U.S. Patent No. 4,735,792 discloses representative radiohalogenated small molecules and their synthesis. A radionuclide chelate may be formed from chelating compounds that include those containing nitrogen and sulfur atoms as the donor atoms for binding the metal, or metal oxide, radionuclide. For example, U.S. Patent No. 4,673,562, to Davison et al. discloses representative chelating compounds and their synthesis.

A variety of routes of administration for the antibodies and immunoconjugates may be used. Typically, administration will be intravenous, intramuscular, subcutaneous or in the bed of a resected tumor. It will be evident that the precise dose of the antibody/immunoconjugate will vary depending upon the antibody used, the antigen density on the tumor, and the rate of clearance of the antibody.

T CELLS

Immunotherapeutic compositions may also, or alternatively, comprise T cells specific for a lung tumor protein. Such cells may generally be prepared *in vitro* or *ex vivo*, using

standard procedures. For example, T cells may be isolated from bone marrow, peripheral blood, or a fraction of bone marrow or peripheral blood of a patient, using a commercially available cell separation system, such as the CEPRATE™ system, available from CellPro Inc., Bothell WA (see also U.S. Patent No. 5,240,856; U.S. Patent No. 5,215,926; WO 89/06280; WO 91/16116 and WO 92/07243). Alternatively, T cells may be derived from related or unrelated humans, non-human mammals, cell lines or cultures.

T cells may be stimulated with a lung tumor polypeptide, polynucleotide encoding a lung tumor polypeptide and/or an antigen presenting cell (APC) that expresses such a polypeptide. Such stimulation is performed under conditions and for a time sufficient to permit the generation of T cells that are specific for the polypeptide. Preferably, a lung tumor polypeptide or polynucleotide is present within a delivery vehicle, such as a microsphere, to facilitate the generation of specific T cells.

T cells are considered to be specific for a lung tumor polypeptide if the T cells kill target cells coated with the polypeptide or expressing a gene encoding the polypeptide. T cell specificity may be evaluated using any of a variety of standard techniques. For example, within a chromium release assay or proliferation assay, a stimulation index of more than two fold increase in lysis and/or proliferation, compared to negative controls, indicates T cell specificity. Such assays may be performed, for example, as described in Chen et al., *Cancer Res.* 54:1065-1070, 1994. Alternatively, detection of the proliferation of T cells may be accomplished by a variety of known techniques. For example, T cell proliferation can be detected by measuring an increased rate of DNA synthesis (*e.g.*, by pulse-labeling cultures of T cells with tritiated thymidine and measuring the amount of tritiated thymidine incorporated into DNA). Contact with a lung tumor polypeptide (100 ng/ml - 100 µg/ml, preferably 200 ng/ml - 25 µg/ml) for 3 - 7 days should result in at least a two fold increase in proliferation of the T cells. Contact as described above for 2-3 hours should result in activation of the T cells, as measured using standard cytokine assays in which a two fold increase in the level of cytokine release (*e.g.*, TNF or IFN-γ) is indicative of T cell activation (*see* Coligan et al., *Current Protocols in Immunology*, vol. 1, Wiley Interscience (Greene 1998)). T cells that have been activated in response to a lung tumor polypeptide, polynucleotide or polypeptide-expressing APC may be CD4⁺ and/or CD8⁺. Lung tumor protein-specific T cells may be expanded using standard techniques. Within

preferred embodiments, the T cells are derived from either a patient or a related, or unrelated, donor and are administered to the patient following stimulation and expansion.

For therapeutic purposes, CD4⁺ or CD8⁺ T cells that proliferate in response to a lung tumor polypeptide, polynucleotide or APC can be expanded in number either *in vitro* or *in vivo*. Proliferation of such T cells *in vitro* may be accomplished in a variety of ways. For example, the T cells can be re-exposed to a lung tumor polypeptide, or a short peptide corresponding to an immunogenic portion of such a polypeptide, with or without the addition of T cell growth factors, such as interleukin-2, and/or stimulator cells that synthesize a lung tumor polypeptide. Alternatively, one or more T cells that proliferate in the presence of a lung tumor protein can be expanded in number by cloning. Methods for cloning cells are well known in the art, and include limiting dilution.

PHARMACEUTICAL COMPOSITIONS AND VACCINES

Within certain aspects, polypeptides, polynucleotides, T cells and/or binding agents disclosed herein may be incorporated into pharmaceutical compositions or immunogenic compositions (*i.e.*, vaccines). Pharmaceutical compositions comprise one or more such compounds and a physiologically acceptable carrier. Vaccines may comprise one or more such compounds and an immunostimulant. An immunostimulant may be any substance that enhances or potentiates an immune response to an exogenous antigen. Examples of immunostimulants include adjuvants, biodegradable microspheres (*e.g.*, polylactic galactide) and liposomes (into which the compound is incorporated; *see e.g.*, Fullerton, U.S. Patent No. 4,235,877). Vaccine preparation is generally described in, for example, M.F. Powell and M.J. Newman, eds., "Vaccine Design (the subunit and adjuvant approach)," Plenum Press (NY, 1995). Pharmaceutical compositions and vaccines within the scope of the present invention may also contain other compounds, which may be biologically active or inactive. For example, one or more immunogenic portions of other tumor antigens may be present, either incorporated into a fusion polypeptide or as a separate compound, within the composition or vaccine.

A pharmaceutical composition or vaccine may contain DNA encoding one or more of the polypeptides as described above, such that the polypeptide is generated *in situ*. As noted above, the DNA may be present within any of a variety of delivery systems known to those

of ordinary skill in the art, including nucleic acid expression systems, bacteria and viral expression systems. Numerous gene delivery techniques are well known in the art, such as those described by Rolland, *Crit. Rev. Therap. Drug Carrier Systems* 15:143-198, 1998, and references cited therein. Appropriate nucleic acid expression systems contain the necessary DNA sequences for expression in the patient (such as a suitable promoter and terminating signal). Bacterial delivery systems involve the administration of a bacterium (such as *Bacillus-Calmette-Guerrin*) that expresses an immunogenic portion of the polypeptide on its cell surface or secretes such an epitope. In a preferred embodiment, the DNA may be introduced using a viral expression system (e.g., vaccinia or other pox virus, retrovirus, or adenovirus), which may involve the use of a non-pathogenic (defective), replication competent virus. Suitable systems are disclosed, for example, in Fisher-Hoch et al., *Proc. Natl. Acad. Sci. USA* 86:317-321, 1989; Flexner et al., *Ann. N.Y. Acad. Sci.* 569:86-103, 1989; Flexner et al., *Vaccine* 8:17-21, 1990; U.S. Patent Nos. 4,603,112, 4,769,330, and 5,017,487; WO 89/01973; U.S. Patent No. 4,777,127; GB 2,200,651; EP 0,345,242; WO 91/02805; Berkner, *Biotechniques* 6:616-627, 1988; Rosenfeld et al., *Science* 252:431-434, 1991; Kolls et al., *Proc. Natl. Acad. Sci. USA* 91:215-219, 1994; Kass-Eisler et al., *Proc. Natl. Acad. Sci. USA* 90:11498-11502, 1993; Guzman et al., *Circulation* 88:2838-2848, 1993; and Guzman et al., *Cir. Res.* 73:1202-1207, 1993. Techniques for incorporating DNA into such expression systems are well known to those of ordinary skill in the art. The DNA may also be "naked," as described, for example, in Ulmer et al., *Science* 259:1745-1749, 1993 and reviewed by Cohen, *Science* 259:1691-1692, 1993. The uptake of naked DNA may be increased by coating the DNA onto biodegradable beads, which are efficiently transported into the cells.

While any suitable carrier known to those of ordinary skill in the art may be employed in the pharmaceutical compositions of this invention, the type of carrier will vary depending on the mode of administration. Compositions of the present invention may be formulated for any appropriate manner of administration, including for example, topical, oral, nasal, intravenous, intracranial, intraperitoneal, subcutaneous or intramuscular administration. For parenteral administration, such as subcutaneous injection, the carrier preferably comprises water, saline, alcohol, a fat, a wax or a buffer. For oral administration, any of the above carriers or a solid carrier, such as mannitol, lactose, starch, magnesium stearate, sodium saccharine, talcum, cellulose, glucose, sucrose, and magnesium carbonate, may be employed. Biodegradable

microspheres (e.g., polylactate polyglycolate) may also be employed as carriers for the pharmaceutical compositions of this invention. Suitable biodegradable microspheres are disclosed, for example, in U.S. Patent Nos. 4,897,268 and 5,075,109.

Such compositions may also comprise buffers (e.g., neutral buffered saline or phosphate buffered saline), carbohydrates (e.g., glucose, mannose, sucrose or dextrans), mannitol, proteins, polypeptides or amino acids such as glycine, antioxidants, chelating agents such as EDTA or glutathione, adjuvants (e.g., aluminum hydroxide) and/or preservatives. Alternatively, compositions of the present invention may be formulated as a lyophilizate. Compounds may also be encapsulated within liposomes using well known technology.

Any of a variety of immunostimulants may be employed in the vaccines of this invention. For example, an adjuvant may be included. Most adjuvants contain a substance designed to protect the antigen from rapid catabolism, such as aluminum hydroxide or mineral oil, and a stimulator of immune responses, such as lipid A, *Bordetella pertussis* or *Mycobacterium tuberculosis* derived proteins. Suitable adjuvants are commercially available as, for example, Freund's Incomplete Adjuvant and Complete Adjuvant (Difco Laboratories, Detroit, MI); Merck Adjuvant 65 (Merck and Company, Inc., Rahway, NJ); AS-2 (SmithKline Beecham, Philadelphia, PA); aluminum salts such as aluminum hydroxide gel (alum) or aluminum phosphate; salts of calcium, iron or zinc; an insoluble suspension of acylated tyrosine; acylated sugars; cationically or anionically derivatized polysaccharides; polyphosphazenes; biodegradable microspheres; monophosphoryl lipid A and quil A. Cytokines, such as GM-CSF or interleukin-2, -7, or -12, may also be used as adjuvants.

Within the vaccines provided herein, the adjuvant composition is preferably designed to induce an immune response predominantly of the Th1 type. High levels of Th1-type cytokines (e.g., IFN- γ , TNF α , IL-2 and IL-12) tend to favor the induction of cell mediated immune responses to an administered antigen. In contrast, high levels of Th2-type cytokines (e.g., IL-4, IL-5, IL-6 and IL-10) tend to favor the induction of humoral immune responses. Following application of a vaccine as provided herein, a patient will support an immune response that includes Th1- and Th2-type responses. Within a preferred embodiment, in which a response is predominantly Th1-type, the level of Th1-type cytokines will increase to a greater extent than the level of Th2-type cytokines. The levels of these cytokines may be readily assessed using

standard assays. For a review of the families of cytokines, see Mosmann and Coffman, *Ann. Rev. Immunol.* 7:145-173, 1989.

Preferred adjuvants for use in eliciting a predominantly Th1-type response include, for example, a combination of monophosphoryl lipid A, preferably 3-de-O-acylated monophosphoryl lipid A (3D-MPL), together with an aluminum salt. MPL adjuvants are available from Ribi ImmunoChem Research Inc. (Hamilton, MT) (*see* US Patent Nos. 4,436,727; 4,877,611; 4,866,034 and 4,912,094). CpG-containing oligonucleotides (in which the CpG dinucleotide is unmethylated) also induce a predominantly Th1 response. Such oligonucleotides are well known and are described, for example, in WO 96/02555 and WO 99/33488. Immunostimulatory DNA sequences are also described, for example, by Sato et al., *Science* 273:352, 1996. Another preferred adjuvant is a saponin, preferably QS21 (Aquila Biopharmaceuticals Inc., Framingham, MA), which may be used alone or in combination with other adjuvants. For example, an enhanced system involves the combination of a monophosphoryl lipid A and saponin derivative, such as the combination of QS21 and 3D-MPL as described in WO 94/00153, or a less reactogenic composition where the QS21 is quenched with cholesterol, as described in WO 96/33739. Other preferred formulations comprises an oil-in-water emulsion and tocopherol. A particularly potent adjuvant formulation involving QS21, 3D-MPL and tocopherol in an oil-in-water emulsion is described in WO 95/17210.

Other preferred adjuvants include Montanide ISA 720 (Seppic, France), SAF (Chiron, California, United States), ISCOMS (CSL), MF-59 (Chiron), the SBAS series of adjuvants (*e.g.*, SBAS-2 or SBAS-4, available from SmithKline Beecham, Rixensart, Belgium), Detox (Ribi ImmunoChem Research Inc., Hamilton, MT), RC-529 (Ribi ImmunoChem Research Inc., Hamilton, MT) and Aminoalkyl glucosaminide 4-phosphates (AGPs).

Any vaccine provided herein may be prepared using well known methods that result in a combination of antigen, immune response enhancer and a suitable carrier or excipient. The compositions described herein may be administered as part of a sustained release formulation (*i.e.*, a formulation such as a capsule, sponge or gel (composed of polysaccharides, for example) that effects a slow release of compound following administration). Such formulations may generally be prepared using well known technology (*see, e.g.* Coombes et al., *Vaccine* 14:1429-1438, 1996) and administered by, for example, oral, rectal or subcutaneous

implantation, or by implantation at the desired target site. Sustained-release formulations may contain a polypeptide, polynucleotide or antibody dispersed in a carrier matrix and/or contained within a reservoir surrounded by a rate controlling membrane.

Carriers for use within such formulations are biocompatible, and may also be biodegradable; preferably the formulation provides a relatively constant level of active component release. Such carriers include microparticles of poly(lactide-co-glycolide), as well as polyacrylate, latex, starch, cellulose and dextran. Other delayed-release carriers include supramolecular biovectors, which comprise a non-liquid hydrophilic core (*e.g.*, a cross-linked polysaccharide or oligosaccharide) and, optionally, an external layer comprising an amphiphilic compound, such as a phospholipid (*see e.g.*, U.S. Patent No. 5,151,254 and PCT applications WO 94/20078, WO/94/23701 and WO 96/06638). The amount of active compound contained within a sustained release formulation depends upon the site of implantation, the rate and expected duration of release and the nature of the condition to be treated or prevented.

Any of a variety of delivery vehicles may be employed within pharmaceutical compositions and vaccines to facilitate production of an antigen-specific immune response that targets tumor cells. Delivery vehicles include antigen presenting cells (APCs), such as dendritic cells, macrophages, B cells, monocytes and other cells that may be engineered to be efficient APCs. Such cells may, but need not, be genetically modified to increase the capacity for presenting the antigen, to improve activation and/or maintenance of the T cell response, to have anti-tumor effects *per se* and/or to be immunologically compatible with the receiver (*i.e.*, matched HLA haplotype). APCs may generally be isolated from any of a variety of biological fluids and organs, including tumor and peritumoral tissues, and may be autologous, allogeneic, syngeneic or xenogeneic cells.

Certain preferred embodiments of the present invention use dendritic cells or progenitors thereof as antigen-presenting cells. Dendritic cells are highly potent APCs (Banchereau and Steinman, *Nature* 392:245-251, 1998) and have been shown to be effective as a physiological adjuvant for eliciting prophylactic or therapeutic antitumor immunity (*see* Timmerman and Levy, *Ann. Rev. Med.* 50:507-529, 1999). In general, dendritic cells may be identified based on their typical shape (stellate *in situ*, with marked cytoplasmic processes (dendrites) visible *in vitro*), their ability to take up, process and present antigens with high

efficiency, and their ability to activate naïve T cell responses. Dendritic cells may, of course, be engineered to express specific cell-surface receptors or ligands that are not commonly found on dendritic cells *in vivo* or *ex vivo*, and such modified dendritic cells are contemplated by the present invention. As an alternative to dendritic cells, secreted vesicles antigen-loaded dendritic cells (called exosomes) may be used within a vaccine (*see* Zitvogel et al., *Nature Med.* 4:594-600, 1998).

Dendritic cells and progenitors may be obtained from peripheral blood, bone marrow, tumor-infiltrating cells, peritumoral tissues-infiltrating cells, lymph nodes, spleen, skin, umbilical cord blood or any other suitable tissue or fluid. For example, dendritic cells may be differentiated *ex vivo* by adding a combination of cytokines such as GM-CSF, IL-4, IL-13 and/or TNF α to cultures of monocytes harvested from peripheral blood. Alternatively, CD34 positive cells harvested from peripheral blood, umbilical cord blood or bone marrow may be differentiated into dendritic cells by adding to the culture medium combinations of GM-CSF, IL-3, TNF α , CD40 ligand, LPS, flt3 ligand and/or other compound(s) that induce differentiation, maturation and proliferation of dendritic cells.

Dendritic cells are conveniently categorized as "immature" and "mature" cells, which allows a simple way to discriminate between two well characterized phenotypes. However, this nomenclature should not be construed to exclude all possible intermediate stages of differentiation. Immature dendritic cells are characterized as APC with a high capacity for antigen uptake and processing, which correlates with the high expression of Fc γ receptor and mannose receptor. The mature phenotype is typically characterized by a lower expression of these markers, but a high expression of cell surface molecules responsible for T cell activation such as class I and class II MHC, adhesion molecules (*e.g.*, CD54 and CD11) and costimulatory molecules (*e.g.*, CD40, CD80, CD86 and 4-1BB).

APCs may generally be transfected with a polynucleotide encoding a lung tumor protein (or portion or other variant thereof) such that the lung tumor polypeptide, or an immunogenic portion thereof, is expressed on the cell surface. Such transfection may take place *ex vivo*, and a composition or vaccine comprising such transfected cells may then be used for therapeutic purposes, as described herein. Alternatively, a gene delivery vehicle that targets a dendritic or other antigen presenting cell may be administered to a patient, resulting in

transfection that occurs *in vivo*. *In vivo* and *ex vivo* transfection of dendritic cells, for example, may generally be performed using any methods known in the art, such as those described in WO 97/24447, or the gene gun approach described by Mahvi et al., *Immunology and cell Biology* 75:456-460, 1997. Antigen loading of dendritic cells may be achieved by incubating dendritic cells or progenitor cells with the lung tumor polypeptide, DNA (naked or within a plasmid vector) or RNA; or with antigen-expressing recombinant bacterium or viruses (e.g., vaccinia, fowlpox, adenovirus or lentivirus vectors). Prior to loading, the polypeptide may be covalently conjugated to an immunological partner that provides T cell help (e.g., a carrier molecule). Alternatively, a dendritic cell may be pulsed with a non-conjugated immunological partner, separately or in the presence of the polypeptide.

Vaccines and pharmaceutical compositions may be presented in unit-dose or multi-dose containers, such as sealed ampoules or vials. Such containers are preferably hermetically sealed to preserve sterility of the formulation until use. In general, formulations may be stored as suspensions, solutions or emulsions in oily or aqueous vehicles. Alternatively, a vaccine or pharmaceutical composition may be stored in a freeze-dried condition requiring only the addition of a sterile liquid carrier immediately prior to use.

CANCER THERAPY

In further aspects of the present invention, the compositions described herein may be used for immunotherapy of cancer, such as lung cancer. Within such methods, pharmaceutical compositions and vaccines are typically administered to a patient. As used herein, a "patient" refers to any warm-blooded animal, preferably a human. A patient may or may not be afflicted with cancer. Accordingly, the above pharmaceutical compositions and vaccines may be used to prevent the development of a cancer or to treat a patient afflicted with a cancer. A cancer may be diagnosed using criteria generally accepted in the art, including the presence of a malignant tumor. Pharmaceutical compositions and vaccines may be administered either prior to or following surgical removal of primary tumors and/or treatment such as administration of radiotherapy or conventional chemotherapeutic drugs.

Within certain embodiments, immunotherapy may be active immunotherapy, in which treatment relies on the *in vivo* stimulation of the endogenous host immune system to react

against tumors with the administration of immune response-modifying agents (such as polypeptides and polynucleotides disclosed herein).

Within other embodiments, immunotherapy may be passive immunotherapy, in which treatment involves the delivery of agents with established tumor-immune reactivity (such as effector cells or antibodies) that can directly or indirectly mediate antitumor effects and does not necessarily depend on an intact host immune system. Examples of effector cells include T cells as discussed above, T lymphocytes (such as CD8⁺ cytotoxic T lymphocytes and CD4⁺ T-helper tumor-infiltrating lymphocytes), killer cells (such as Natural Killer cells and lymphokine-activated killer cells), B cells and antigen-presenting cells (such as dendritic cells and macrophages) expressing a polypeptide provided herein. T cell receptors and antibody receptors specific for the polypeptides recited herein may be cloned, expressed and transferred into other vectors or effector cells for adoptive immunotherapy. The polypeptides provided herein may also be used to generate antibodies or anti-idiotypic antibodies (as described above and in U.S. Patent No. 4,918,164) for passive immunotherapy.

Effector cells may generally be obtained in sufficient quantities for adoptive immunotherapy by growth *in vitro*, as described herein. Culture conditions for expanding single antigen-specific effector cells to several billion in number with retention of antigen recognition *in vivo* are well known in the art. Such *in vitro* culture conditions typically use intermittent stimulation with antigen, often in the presence of cytokines (such as IL-2) and non-dividing feeder cells. As noted above, immunoreactive polypeptides as provided herein may be used to rapidly expand antigen-specific T cell cultures in order to generate a sufficient number of cells for immunotherapy. In particular, antigen-presenting cells, such as dendritic, macrophage or B cells, may be pulsed with immunoreactive polypeptides or transfected with one or more polynucleotides using standard techniques well known in the art. For example, antigen-presenting cells can be transfected with a polynucleotide having a promoter appropriate for increasing expression in a recombinant virus or other expression system. Cultured effector cells for use in therapy must be able to grow and distribute widely, and to survive long term *in vivo*. Studies have shown that cultured effector cells can be induced to grow *in vivo* and to survive long term in substantial numbers by repeated stimulation with antigen supplemented with IL-2 (see, for example, Cheever et al., *Immunological Reviews* 157:177, 1997).

Alternatively, a vector expressing a polypeptide recited herein may be introduced into antigen presenting cells taken from a patient and clonally propagated *ex vivo* for transplant back into the same patient. Transfected cells may be reintroduced into the patient using any means known in the art, preferably in sterile form by intravenous, intracavitary, intraperitoneal or intratumor administration.

Routes and frequency of administration of the therapeutic compositions disclosed herein, as well as dosage, will vary from individual to individual, and may be readily established using standard techniques. In general, the pharmaceutical compositions and vaccines may be administered by injection (*e.g.*, intracutaneous, intramuscular, intravenous or subcutaneous), intranasally (*e.g.*, by aspiration) or orally. Preferably, between 1 and 10 doses may be administered over a 52 week period. Preferably, 6 doses are administered, at intervals of 1 month, and booster vaccinations may be given periodically thereafter. Alternate protocols may be appropriate for individual patients. A suitable dose is an amount of a compound that, when administered as described above, is capable of promoting an anti-tumor immune response, and is at least 10-50% above the basal (*i.e.*, untreated) level. Such response can be monitored by measuring the anti-tumor antibodies in a patient or by vaccine-dependent generation of cytolytic effector cells capable of killing the patient's tumor cells *in vitro*. Such vaccines should also be capable of causing an immune response that leads to an improved clinical outcome (*e.g.*, more frequent remissions, complete or partial or longer disease-free survival) in vaccinated patients as compared to non-vaccinated patients. In general, for pharmaceutical compositions and vaccines comprising one or more polypeptides, the amount of each polypeptide present in a dose ranges from about 25 μ g to 5 mg per kg of host. Suitable dose sizes will vary with the size of the patient, but will typically range from about 0.1 mL to about 5 mL.

In general, an appropriate dosage and treatment regimen provides the active compound(s) in an amount sufficient to provide therapeutic and/or prophylactic benefit. Such a response can be monitored by establishing an improved clinical outcome (*e.g.*, more frequent remissions, complete or partial, or longer disease-free survival) in treated patients as compared to non-treated patients. Increases in preexisting immune responses to a lung tumor protein generally correlate with an improved clinical outcome. Such immune responses may generally

be evaluated using standard proliferation, cytotoxicity or cytokine assays, which may be performed using samples obtained from a patient before and after treatment.

METHODS FOR DETECTING CANCER

In general, a cancer may be detected in a patient based on the presence of one or more lung tumor proteins, and/or polynucleotides encoding such proteins, in a biological sample (for example, blood, sera, urine, sputum and/or tumor biopsies) obtained from the patient. In other words, such proteins may be used as markers to indicate the presence or absence of a cancer such as lung cancer. In addition, such proteins may be useful for the detection of other cancers. The binding agents provided herein generally permit detection of the level of antigen that binds to the agent in the biological sample. Polynucleotide primers and probes may be used to detect the level of mRNA encoding a tumor protein, which is also indicative of the presence or absence of a cancer. In general, a lung tumor sequence should be present at a level that is at least three fold higher in tumor tissue than in normal tissue

There are a variety of assay formats known to those of ordinary skill in the art for using a binding agent to detect polypeptide markers in a sample. *See, e.g., Harlow and Lane, Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988. In general, the presence or absence of a cancer in a patient may be determined by (a) contacting a biological sample obtained from a patient with a binding agent; (b) detecting in the sample a level of polypeptide that binds to the binding agent; and (c) comparing the level of polypeptide with a predetermined cut-off value.

In a preferred embodiment, the assay involves the use of binding agent immobilized on a solid support to bind to and remove the polypeptide from the remainder of the sample. The bound polypeptide may then be detected using a detection reagent that contains a reporter group and specifically binds to the binding agent/polypeptide complex. Such detection reagents may comprise, for example, a binding agent that specifically binds to the polypeptide or an antibody or other agent that specifically binds to the binding agent, such as an anti-immunoglobulin, protein G, protein A or a lectin. Alternatively, a competitive assay may be utilized, in which a polypeptide is labeled with a reporter group and allowed to bind to the immobilized binding agent after incubation of the binding agent with the sample. The extent to

which components of the sample inhibit the binding of the labeled polypeptide to the binding agent is indicative of the reactivity of the sample with the immobilized binding agent. Suitable polypeptides for use within such assays include full length lung tumor proteins and portions thereof to which the binding agent binds, as described above.

The solid support may be any material known to those of ordinary skill in the art to which the tumor protein may be attached. For example, the solid support may be a test well in a microtiter plate or a nitrocellulose or other suitable membrane. Alternatively, the support may be a bead or disc, such as glass, fiberglass, latex or a plastic material such as polystyrene or polyvinylchloride. The support may also be a magnetic particle or a fiber optic sensor, such as those disclosed, for example, in U.S. Patent No. 5,359,681. The binding agent may be immobilized on the solid support using a variety of techniques known to those of skill in the art, which are amply described in the patent and scientific literature. In the context of the present invention, the term "immobilization" refers to both noncovalent association, such as adsorption, and covalent attachment (which may be a direct linkage between the agent and functional groups on the support or may be a linkage by way of a cross-linking agent). Immobilization by adsorption to a well in a microtiter plate or to a membrane is preferred. In such cases, adsorption may be achieved by contacting the binding agent, in a suitable buffer, with the solid support for a suitable amount of time. The contact time varies with temperature, but is typically between about 1 hour and about 1 day. In general, contacting a well of a plastic microtiter plate (such as polystyrene or polyvinylchloride) with an amount of binding agent ranging from about 10 ng to about 10 μ g, and preferably about 100 ng to about 1 μ g, is sufficient to immobilize an adequate amount of binding agent.

Covalent attachment of binding agent to a solid support may generally be achieved by first reacting the support with a bifunctional reagent that will react with both the support and a functional group, such as a hydroxyl or amino group, on the binding agent. For example, the binding agent may be covalently attached to supports having an appropriate polymer coating using benzoquinone or by condensation of an aldehyde group on the support with an amine and an active hydrogen on the binding partner (*see, e.g.*, Pierce Immunotechnology Catalog and Handbook, 1991, at A12-A13).

In certain embodiments, the assay is a two-antibody sandwich assay. This assay may be performed by first contacting an antibody that has been immobilized on a solid support, commonly the well of a microtiter plate, with the sample, such that polypeptides within the sample are allowed to bind to the immobilized antibody. Unbound sample is then removed from the immobilized polypeptide-antibody complexes and a detection reagent (preferably a second antibody capable of binding to a different site on the polypeptide) containing a reporter group is added. The amount of detection reagent that remains bound to the solid support is then determined using a method appropriate for the specific reporter group.

More specifically, once the antibody is immobilized on the support as described above, the remaining protein binding sites on the support are typically blocked. Any suitable blocking agent known to those of ordinary skill in the art, such as bovine serum albumin or Tween 20TM (Sigma Chemical Co., St. Louis, MO). The immobilized antibody is then incubated with the sample, and polypeptide is allowed to bind to the antibody. The sample may be diluted with a suitable diluent, such as phosphate-buffered saline (PBS) prior to incubation. In general, an appropriate contact time (*i.e.*, incubation time) is a period of time that is sufficient to detect the presence of polypeptide within a sample obtained from an individual with lung cancer. Preferably, the contact time is sufficient to achieve a level of binding that is at least about 95% of that achieved at equilibrium between bound and unbound polypeptide. Those of ordinary skill in the art will recognize that the time necessary to achieve equilibrium may be readily determined by assaying the level of binding that occurs over a period of time. At room temperature, an incubation time of about 30 minutes is generally sufficient.

Unbound sample may then be removed by washing the solid support with an appropriate buffer, such as PBS containing 0.1% Tween 20TM. The second antibody, which contains a reporter group, may then be added to the solid support. Preferred reporter groups include those groups recited above.

The detection reagent is then incubated with the immobilized antibody-polypeptide complex for an amount of time sufficient to detect the bound polypeptide. An appropriate amount of time may generally be determined by assaying the level of binding that occurs over a period of time. Unbound detection reagent is then removed and bound detection reagent is detected using the reporter group. The method employed for detecting the reporter

group depends upon the nature of the reporter group. For radioactive groups, scintillation counting or autoradiographic methods are generally appropriate. Spectroscopic methods may be used to detect dyes, luminescent groups and fluorescent groups. Biotin may be detected using avidin, coupled to a different reporter group (commonly a radioactive or fluorescent group or an enzyme). Enzyme reporter groups may generally be detected by the addition of substrate (generally for a specific period of time), followed by spectroscopic or other analysis of the reaction products.

To determine the presence or absence of a cancer, such as lung cancer, the signal detected from the reporter group that remains bound to the solid support is generally compared to a signal that corresponds to a predetermined cut-off value. In one preferred embodiment, the cut-off value for the detection of a cancer is the average mean signal obtained when the immobilized antibody is incubated with samples from patients without the cancer. In general, a sample generating a signal that is three standard deviations above the predetermined cut-off value is considered positive for the cancer. In an alternate preferred embodiment, the cut-off value is determined using a Receiver Operator Curve, according to the method of Sackett et al., *Clinical Epidemiology: A Basic Science for Clinical Medicine*, Little Brown and Co., 1985, p. 106-7. Briefly, in this embodiment, the cut-off value may be determined from a plot of pairs of true positive rates (*i.e.*, sensitivity) and false positive rates (100%-specificity) that correspond to each possible cut-off value for the diagnostic test result. The cut-off value on the plot that is the closest to the upper left-hand corner (*i.e.*, the value that encloses the largest area) is the most accurate cut-off value, and a sample generating a signal that is higher than the cut-off value determined by this method may be considered positive. Alternatively, the cut-off value may be shifted to the left along the plot, to minimize the false positive rate, or to the right, to minimize the false negative rate. In general, a sample generating a signal that is higher than the cut-off value determined by this method is considered positive for a cancer.

In a related embodiment, the assay is performed in a flow-through or strip test format, wherein the binding agent is immobilized on a membrane, such as nitrocellulose. In the flow-through test, polypeptides within the sample bind to the immobilized binding agent as the sample passes through the membrane. A second, labeled binding agent then binds to the binding agent-polypeptide complex as a solution containing the second binding agent flows through the

membrane. The detection of bound second binding agent may then be performed as described above. In the strip test format, one end of the membrane to which binding agent is bound is immersed in a solution containing the sample. The sample migrates along the membrane through a region containing second binding agent and to the area of immobilized binding agent. Concentration of second binding agent at the area of immobilized antibody indicates the presence of a cancer. Typically, the concentration of second binding agent at that site generates a pattern, such as a line, that can be read visually. The absence of such a pattern indicates a negative result. In general, the amount of binding agent immobilized on the membrane is selected to generate a visually discernible pattern when the biological sample contains a level of polypeptide that would be sufficient to generate a positive signal in the two-antibody sandwich assay, in the format discussed above. Preferred binding agents for use in such assays are antibodies and antigen-binding fragments thereof. Preferably, the amount of antibody immobilized on the membrane ranges from about 25 ng to about 1 μ g, and more preferably from about 50 ng to about 500 ng. Such tests can typically be performed with a very small amount of biological sample.

Of course, numerous other assay protocols exist that are suitable for use with the tumor proteins or binding agents of the present invention. The above descriptions are intended to be exemplary only. For example, it will be apparent to those of ordinary skill in the art that the above protocols may be readily modified to use lung tumor polypeptides to detect antibodies that bind to such polypeptides in a biological sample. The detection of such lung tumor protein specific antibodies may correlate with the presence of a cancer.

A cancer may also, or alternatively, be detected based on the presence of T cells that specifically react with a lung tumor protein in a biological sample. Within certain methods, a biological sample comprising CD4⁺ and/or CD8⁺ T cells isolated from a patient is incubated with a lung tumor polypeptide, a polynucleotide encoding such a polypeptide and/or an APC that expresses at least an immunogenic portion of such a polypeptide, and the presence or absence of specific activation of the T cells is detected. Suitable biological samples include, but are not limited to, isolated T cells. For example, T cells may be isolated from a patient by routine techniques (such as by Ficoll/Hypaque density gradient centrifugation of peripheral blood lymphocytes). T cells may be incubated *in vitro* for 2-9 days (typically 4 days) at 37°C with Mtb-81 or Mtb-67.2 polypeptide (*e.g.*, 5 - 25 μ g/ml). It may be desirable to incubate another

aliquot of a T cell sample in the absence of lung tumor polypeptide to serve as a control. For CD4⁺ T cells, activation is preferably detected by evaluating proliferation of the T cells. For CD8⁺ T cells, activation is preferably detected by evaluating cytolytic activity. A level of proliferation that is at least two fold greater and/or a level of cytolytic activity that is at least 20% greater than in disease-free patients indicates the presence of a cancer in the patient.

As noted above, a cancer may also, or alternatively, be detected based on the level of mRNA encoding a lung tumor protein in a biological sample. For example, at least two oligonucleotide primers may be employed in a polymerase chain reaction (PCR) based assay to amplify a portion of a lung tumor cDNA derived from a biological sample, wherein at least one of the oligonucleotide primers is specific for (*i.e.*, hybridizes to) a polynucleotide encoding the lung tumor protein. The amplified cDNA is then separated and detected using techniques well known in the art, such as gel electrophoresis. Similarly, oligonucleotide probes that specifically hybridize to a polynucleotide encoding a lung tumor protein may be used in a hybridization assay to detect the presence of polynucleotide encoding the tumor protein in a biological sample.

To permit hybridization under assay conditions, oligonucleotide primers and probes should comprise an oligonucleotide sequence that has at least about 60%, preferably at least about 75% and more preferably at least about 90%, identity to a portion of a polynucleotide encoding a lung tumor protein that is at least 10 nucleotides, and preferably at least 20 nucleotides, in length. Preferably, oligonucleotide primers and/or probes will hybridize to a polynucleotide encoding a polypeptide disclosed herein under moderately stringent conditions, as defined above. Oligonucleotide primers and/or probes which may be usefully employed in the diagnostic methods described herein preferably are at least 10-40 nucleotides in length. In a preferred embodiment, the oligonucleotide primers comprise at least 10 contiguous nucleotides, more preferably at least 15 contiguous nucleotides, of a DNA molecule having a sequence recited in SEQ ID NO: 1-782, 784, 785 and 788. Techniques for both PCR based assays and hybridization assays are well known in the art (*see*, for example, Mullis et al., *Cold Spring Harbor Symp. Quant. Biol.*, 51:263, 1987; Erlich ed., *PCR Technology*, Stockton Press, NY, 1989).

One preferred assay employs RT-PCR, in which PCR is applied in conjunction with reverse transcription. Typically, RNA is extracted from a biological sample, such as biopsy

tissue, and is reverse transcribed to produce cDNA molecules. PCR amplification using at least one specific primer generates a cDNA molecule, which may be separated and visualized using, for example, gel electrophoresis. Amplification may be performed on biological samples taken from a test patient and from an individual who is not afflicted with a cancer. The amplification reaction may be performed on several dilutions of cDNA spanning two orders of magnitude. A two-fold or greater increase in expression in several dilutions of the test patient sample as compared to the same dilutions of the non-cancerous sample is typically considered positive.

In another embodiment, the disclosed compositions may be used as markers for the progression of cancer. In this embodiment, assays as described above for the diagnosis of a cancer may be performed over time, and the change in the level of reactive polypeptide(s) or polynucleotide evaluated. For example, the assays may be performed every 24-72 hours for a period of 6 months to 1 year, and thereafter performed as needed. In general, a cancer is progressing in those patients in whom the level of polypeptide or polynucleotide detected increases over time. In contrast, the cancer is not progressing when the level of reactive polypeptide or polynucleotide either remains constant or decreases with time.

Certain *in vivo* diagnostic assays may be performed directly on a tumor. One such assay involves contacting tumor cells with a binding agent. The bound binding agent may then be detected directly or indirectly via a reporter group. Such binding agents may also be used in histological applications. Alternatively, polynucleotide probes may be used within such applications.

As noted above, to improve sensitivity, multiple lung tumor protein markers may be assayed within a given sample. It will be apparent that binding agents specific for different proteins provided herein may be combined within a single assay. Further, multiple primers or probes may be used concurrently. The selection of tumor protein markers may be based on routine experiments to determine combinations that results in optimal sensitivity. In addition, or alternatively, assays for tumor proteins provided herein may be combined with assays for other known tumor antigens.

DIAGNOSTIC KITS

The present invention further provides kits for use within any of the above diagnostic methods. Such kits typically comprise two or more components necessary for performing a diagnostic assay. Components may be compounds, reagents, containers and/or equipment. For example, one container within a kit may contain a monoclonal antibody or fragment thereof that specifically binds to a lung tumor protein. Such antibodies or fragments may be provided attached to a support material, as described above. One or more additional containers may enclose elements, such as reagents or buffers, to be used in the assay. Such kits may also, or alternatively, contain a detection reagent as described above that contains a reporter group suitable for direct or indirect detection of antibody binding.

Alternatively, a kit may be designed to detect the level of mRNA encoding a lung tumor protein in a biological sample. Such kits generally comprise at least one oligonucleotide probe or primer, as described above, that hybridizes to a polynucleotide encoding a lung tumor protein. Such an oligonucleotide may be used, for example, within a PCR or hybridization assay. Additional components that may be present within such kits include a second oligonucleotide and/or a diagnostic reagent or container to facilitate the detection of a polynucleotide encoding a lung tumor protein.

The following Examples are offered by way of illustration and not by way of limitation.

EXAMPLE 1

IDENTIFICATION AND CHARACTERIZATION OF LUNG TUMOR PROTEIN cDNAS

This Example illustrates the identification of cDNA molecules encoding lung tumor proteins.

A. ISOLATION OF cDNA SEQUENCES FROM LUNG ADENOCARCINOMA LIBRARIES USING CONVENTIONAL cDNA LIBRARY SUBTRACTION

A human lung adenocarcinoma cDNA expression library was constructed from poly A⁺ RNA from patient tissues (# 40031486) using a Superscript Plasmid System for cDNA

Synthesis and Plasmid Cloning kit (BRL Life Technologies, Gaithersburg, MD) following the manufacturer's protocol. Specifically, lung carcinoma tissues were homogenized with polytron (Kinematica, Switzerland) and total RNA was extracted using Trizol reagent (BRL Life Technologies) as directed by the manufacturer. The poly A⁺ RNA was then purified using an oligo dT cellulose column as described in Sambrook et al., *Molecular Cloning: A Laboratory Manual*, Cold Spring Harbor Laboratories, Cold Spring Harbor, NY, 1989. First-strand cDNA was synthesized using the NotI/Oligo-dT18 primer. Double-stranded cDNA was synthesized, ligated with BstXI/EcoRI adaptors (Invitrogen, San Diego, CA) and digested with NotI. Following size fractionation with cDNA size fractionation columns (BRL Life Technologies), the cDNA was ligated into the BstXI/NotI site of pcDNA3.1 (Invitrogen) and transformed into ElectroMax *E. coli* DH10B cells (BRL Life Technologies) by electroporation. A total of 3×10^6 independent colonies were generated.

Using the same procedure, a normal human cDNA expression library was prepared from a panel of normal tissue specimens, including lung, liver, pancreas, skin, kidney, brain and resting PBMC.

cDNA library subtraction was performed using the above lung adenocarcinoma and normal tissue cDNA libraries, as described by Hara *et al.* (*Blood*, 84:189-199, 1994) with some modifications. Specifically, a lung adenocarcinoma-specific subtracted cDNA library was generated as follows. The normal tissue cDNA library (80 µg) was digested with BamHI and XhoI, followed by a filling-in reaction with DNA polymerase Klenow fragment. After phenol-chloroform extraction and ethanol precipitation, the DNA was dissolved in 133 µl of H₂O, heat-denatured and mixed with 133 µl (133 µg) of Photoprobe biotin (Vector Laboratories, Burlingame, CA). As recommended by the manufacturer, the resulting mixture was irradiated with a 270 W sunlamp on ice for 20 minutes. Additional Photoprobe biotin (67 µl) was added and the biotinylation reaction was repeated. After extraction with butanol five times, the DNA was ethanol-precipitated and dissolved in 23 µl H₂O. The resulting DNA, plus other highly redundant cDNA clones that were frequently recovered in previous lung subtractions formed the driver DNA.

To form the tracer DNA, 10 µg lung adenocarcinoma cDNA library was digested with NotI and SpeI, phenol chloroform extracted and passed through Chroma spin-400 columns

(Clontech, Palo Alto, CA). Typically, 5 μ g of cDNA was recovered after the sizing column. Following ethanol precipitation, the tracer DNA was dissolved in 5 μ l H₂O. Tracer DNA was mixed with 15 μ l driver DNA and 20 μ l of 2 x hybridization buffer (1.5 M NaCl/10 mM EDTA/50 mM HEPES pH 7.5/0.2% sodium dodecyl sulfate), overlaid with mineral oil, and heat-denatured completely. The sample was immediately transferred into a 68 °C water bath and incubated for 20 hours (long hybridization [LH]). The reaction mixture was then subjected to a streptavidin treatment followed by phenol/chloroform extraction. This process was repeated three more times. Subtracted DNA was precipitated, dissolved in 12 μ l H₂O, mixed with 8 μ l driver DNA and 20 μ l of 2 x hybridization buffer, and subjected to a hybridization at 68 °C for 2 hours (short hybridization [SH]). After removal of biotinylated double-stranded DNA, subtracted cDNA was ligated into NotI/SpeI site of chloramphenicol resistant pBCSK⁺ (Stratagene, La Jolla, CA) and transformed into ElectroMax *E. coli* DH10B cells by electroporation to generate a lung adenocarcinoma specific subtracted cDNA library, referred to as LAT-S1. Similarly, LAT-S2 was generated by including 23 genes that were over-expressed in the tracer as additional drivers.

A second human lung adenocarcinoma cDNA expression library was constructed using adenocarcinoma tissue from a second patient (# 86-66) and used to prepare a second lung adenocarcinoma-specific subtracted cDNA library (referred to as LAT2-S2), as described above, using the same panel of normal tissues and the additional genes over-expressed in LAT-S1.

A third human metastatic lung adenocarcinoma library was constructed from a pool of two lung pleural effusions with lung and gastric adenocarcinoma origins. The subtracted cDNA library, Mets-sub2 was generated as described above using the same panel of normal tissues. However, the Mets-sub3 subtracted library was constructed by including 51 additional genes as drivers. These 51 genes were recovered in Mets-sub2, representing over-expressed housekeeping genes in the testers. As a result, Mets-sub3 is more complexed and normalized.

A total of 16 cDNA fragments isolated from LAT-S1, 585 cDNA fragments isolated from LAT-S2, 568 cDNA clones from LAT2-S2, 15 cDNA clones from Mets-sub2 and 343 cDNA clones from Mets-sub3, described above, were colony PCR amplified and their mRNA expression levels in lung tumor, normal lung, and various other normal and tumor tissues were determined using microarray technology (Incyte, Palo Alto, CA). Briefly, the PCR

amplification products were dotted onto slides in an array format, with each product occupying a unique location in the array. mRNA was extracted from the tissue sample to be tested, reverse transcribed, and fluorescent-labeled cDNA probes were generated. The microarrays were probed with the labeled cDNA probes, the slides scanned and fluorescence intensity was measured. This intensity correlates with the hybridization intensity. Seventy-three non-redundant cDNA clones, of which 42 were found to be unique, showed over-expression in lung tumors, with expression in normal tissues tested (lung, skin, lymph node, colon, liver, pancreas, breast, heart, bone marrow, large intestine, kidney, stomach, brain, small intestine, bladder and salivary gland) being either undetectable, or at significantly lower levels compared to lung adenocarcinoma tumors. These clones were further characterized by DNA sequencing with a Perkin Elmer/Applied Biosystems Division Automated Sequencer Model 373A and/or Model 377 (Foster City, CA).

The sequences were compared to known sequences in the gene bank using the EMBL GenBank databases (release 96). No significant homologies were found to the sequence provided in SEQ ID NO: 67, with no apparent homology to previously identified expressed sequence tags (ESTs). The sequences of SEQ ID NO: 60, 62, 65, 66, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97 and 98 were found to show some homology to previously identified expressed sequence tags (ESTs). The cDNA sequences of SEQ ID NO: 59, 61, 63, 64, 67, 68, 72, 73, 75, 77, 78, 81-83, 85, 87, 88, 93, 94, 96, 99 and 100 showed homology to previously identified genes. The full-length cDNA sequences for the clones of SEQ ID NO: 96 and 100 are provided in SEQ ID NO: 316 and 318, respectively. The amino acid sequences for the clones of SEQ ID NO: 59, 61, 63, 64, 68, 73, 82, 83, 94, 96 and 100 are provided in SEQ ID NO: 331, 328, 329, 332, 327, 333, 330, 326, 325, 324 and 335, respectively. A predicted amino acid sequence encoded by the sequence of SEQ ID NO: 69 (referred to as L552S) is provided in SEQ ID NO: 786.

The gene of SEQ ID NO: 84 (referred to as L551S) was determined by real-time RT-PCR analysis to be over-expressed in 2/9 primary adenocarcinomas and to be expressed at lower levels in 2/2 metastatic adenocarcinomas and 1/2 squamous cell carcinomas. No expression was observed in normal tissues, with the exception of very low expression in normal stomach.

B. ISOLATION OF cDNA SEQUENCES FROM LUNG ADENOCARCINOMA LIBRARIES USING PCR-BASED cDNA LIBRARY SUBTRACTION

cDNA clones from a PCR-based subtraction library, containing cDNA from a pool of two human lung primary adenocarcinomas subtracted against a pool of nine normal human tissue cDNAs including skin, colon, lung, esophagus, brain, kidney, spleen, pancreas and liver, (Clontech, Palo Alto, CA) were derived and submitted to a first round of PCR amplification. This library (referred to as ALT-1) was subjected to a second round of PCR amplification, following the manufacturer's protocol. The expression levels of 760 cDNA clones in lung tumor, normal lung, and various other normal and tumor tissues, were examined using microarray technology as described above. A total of 118 clones, of which 55 were unique, were found to be over-expressed in lung tumor tissue, with expression in normal tissues tested (lung, skin, lymph node, colon, liver, pancreas, breast, heart, bone marrow, large intestine, kidney, stomach, brain, small intestine, bladder and salivary gland) being either undetectable, or at significantly lower levels. The sequences were compared to known sequences in the gene bank using the EMBL and GenBank databases (release 96). No significant homologies (including ESTs) were found to the sequence provided in SEQ ID NO: 44. The sequences of SEQ ID NO: 1, 11, 13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43, 45, 46, 51 and 57 were found to show some homology to previously identified expressed sequence tags (ESTs). The cDNA sequences of SEQ ID NO: 2-10, 12, 14, 16-19, 21, 22, 28, 31, 32, 35-38, 40, 42, 44, 47-50, 52-56 and 58 showed homology to previously identified genes. The full-length cDNA sequences for the clones of SEQ ID NO: 18, 22, 31, 35, 36 and 42 are provided in SEQ ID NO: 320, 319, 323, 321, 317, 321 and 322, respectively, with the corresponding amino acid sequences being provided in SEQ ID NO: 337, 336, 340, 338, 334, and 339, respectively. The predicted amino acid sequence encoded by the sequence of SEQ ID NO: 46 (referred to as L840P) is provided in SEQ ID NO: 787. The full-length cDNA sequence for the clone of SEQ ID NO: 54 (referred to as L548S) is provided in SEQ ID NO: 788, with the corresponding amino acid sequence being provided in SEQ ID NO: 789.

Northern blot analyses of the genes of SEQ ID NO: 25 and 46 (referred to as L839P and L840P, respectively) were remarkably similar. Both genes were expressed in 1/2 lung adenocarcinomas as two bands of 3.6 kb and 1.6 kb. No expression of L839P was observed

in normal lung or trachea. No expression of L840P was observed in normal bone marrow, resting or activated PBMC, esophagus, or normal lung. Given the similar expression patterns, L839P and L840P may be derived from the same gene.

Additional lung adenocarcinoma cDNA clones were isolated as follows. A cDNA library was prepared from a pool of two lung adenocarcinomas and subtracted against cDNA from a panel of normal tissues including lung, brain, liver, kidney, pancreas, skin, heart and spleen. The subtraction was performed using a PCR-based protocol (Clontech), which was modified to generate larger fragments. Within this protocol, tester and driver double stranded cDNA were separately digested with five restriction enzymes that recognize six-nucleotide restriction sites (MluI, MscI, PvuII, SalI and StuI). This digestion resulted in an average cDNA size of 600 bp, rather than the average size of 300 bp that results from digestion with RsaI according to the Clontech protocol. The ends of the restriction digested tester cDNA were filled in to generate blunt ends for adapter ligation. This modification did not affect the subtraction efficiency. Two tester populations were then created with different adapters, and the driver library remained without adapters. The tester and driver libraries were then hybridized using excess driver cDNA. In the first hybridization step, driver was separately hybridized with each of the two tester cDNA populations. This resulted in populations of (a) unhybridized tester cDNAs, (b) tester cDNAs hybridized to other tester cDNAs, (c) tester cDNAs hybridized to driver cDNAs and (d) unhybridized driver cDNAs. The two separate hybridization reactions were then combined, and rehybridized in the presence of additional denatured driver cDNA. Following this second hybridization, in addition to populations (a) through (d), a fifth population (e) was generated in which tester cDNA with one adapter hybridized to tester cDNA with the second adapter. Accordingly, the second hybridization step resulted in enrichment of differentially expressed sequences which could be used as templates for PCR amplification with adaptor-specific primers.

The ends were then filled in, and PCR amplification was performed using adaptor-specific primers. Only population (e), which contained tester cDNA that did not hybridize to driver cDNA, was amplified exponentially. A second PCR amplification step was then performed, to reduce background and further enrich differentially expressed sequences.

Fifty-seven cDNA clones were isolated from the subtracted library (referred to as LAP1) and sequenced. The determined cDNA sequences for 16 of these clones are provided in SEQ ID NO: 101-116. The sequences of SEQ ID NO: 101 and 114 showed no significant homologies to previously identified sequences. The sequences of SEQ ID NO: 102-109 and 112 showed some similarity to previously identified sequences, while the sequences of SEQ ID NO: 113, 115 and 116 showed some similarity to previously isolated ESTs.

C. ISOLATION OF cDNA SEQUENCES FROM SMALL CELL LUNG CARCINOMA LIBRARIES USING PCR-BASED cDNA LIBRARY SUBTRACTION

A subtracted cDNA library for small cell lung carcinoma (referred to as SCL1) was prepared using essentially the modified PCR-based subtraction process described above. cDNA from small cell lung carcinoma was subtracted against cDNA from a panel of normal tissues, including normal lung, brain, kidney, liver, pancreas, skin, heart, lymph node and spleen. Both tester and driver poly A+ RNA were initially amplified using SMART PCR cDNA synthesis kit (Clontech, Palo Alto, CA). The tester and driver double stranded cDNA were separately digested with five restriction enzymes (DraI, MscI, PvuII, SmaI, and StuI). These restriction enzymes generated blunt end cuts and the digestion resulted in an average insert size of 600 bp. Digestion with this set of restriction enzymes eliminates the step required to generate blunt ends by filling in of the cDNA ends. These modifications did not affect subtraction efficiency.

Eighty-five clones were isolated and sequenced. The determined cDNA sequences for 31 of these clones are provided in SEQ ID NO: 117-147. The sequences of SEQ ID NO: 122, 124, 126, 127, 130, 131, 133, 136, 139 and 147 showed no significant homologies to previously identified sequences. The sequences of SEQ ID NO: 120, 129, 135, 137, 140, 142, 144 and 145 showed some similarity to previously identified gene sequences, while the sequences of SEQ ID NO: 114, 118, 119, 121, 123, 125, 128, 132, 134, 138, 141, 143 and 147 showed some similarity to previously isolated ESTs.

In further studies, three additional cDNA libraries were generated from poly A+ RNA from a single small cell lung carcinoma sample subtracted against a pool of poly A+ RNA from nine normal tissues (lung, brain, kidney, liver, pancreas, skin, heart pituitary gland and

spleen). For the first library (referred to as SCL2), the subtraction was carried out essentially as described above for the LAP1 library, with the exception that the tester and driver were digested with PvuII, StuI, MscI and DraI. The ratio of tester and driver cDNA used was as recommended by Clontech. For the second library (referred to as SCL3), subtraction was performed essentially as for SCL2 except that cDNA for highly redundant clones identified from the SCL2 library was included in the driver cDNA. Construction of the SCL4 library was performed essentially as described for the SCL3 library except that a higher ratio of driver to tester was employed.

Each library was characterized by DNA sequencing and database analyses. The determined cDNA sequence for 35 clones isolated from the SCL2 library are provided in SEQ ID NO: 245-279, with the determined cDNA sequences for 21 clones isolated from the SCL3 library and for 15 clones isolated from the SCL4 library being provided in SEQ ID NO: 280-300 and 301-315, respectively. The sequences of SEQ ID NO: 246, 254, 261, 262, 304, 309 and 311 showed no significant homologies to previously identified sequences. The sequence of SEQ ID NO: 245, 248, 255, 266, 270, 275, 280, 282, 283, 288-290, 292, 295, 301 and 303 showed some homology to previously isolated ESTs, while the sequences of SEQ ID NO: 247, 249-253, 256-260, 263-265, 267-269, 271-274, 276-279, 281, 284-287, 291, 293, 294, 296-300, 302, 305-308, 310 and 312-315 showed some homology to previously identified gene sequences.

D. ISOLATION OF cDNA SEQUENCES FROM A NEUROENDOCRINE LIBRARY USING PCR-BASED cDNA LIBRARY SUBTRACTION

Using the modified PCR-based subtraction process, essentially as described above for the LAP1 subtracted library, a subtracted cDNA library (referred to as MLN1) was derived from a lung neuroendocrine carcinoma that had metastasized to the subcarinal lymph node, by subtraction with a panel of nine normal tissues, including normal lung, brain, kidney, liver, pancreas, skin, heart, lymph node and spleen.

Ninety-one individual clones were isolated and sequenced. The determined cDNA sequences for 58 of these clones are provided in SEQ ID NO: 147-222. The sequences of SEQ ID NO: 150, 151, 154, 157, 158, 159, 160, 163, 174, 175, 178, 186-190, 192, 193, 195-200, 208-210, 212-215 and 220 showed no significant homologies to previously identified sequences. The sequences of SEQ ID NO: 152, 155, 156, 161, 165, 166, 176, 179, 182, 184, 185, 191, 194,

221 and 222 showed some similarity to previously identified gene sequences, while the sequences of SEQ ID NO: 148, 149, 153, 164, 167-173, 177, 180, 181, 183, 201-207, 211 and 216-219 showed some similarity to previously isolated ESTs.

The determined cDNA sequences of an additional 442 clones isolated from the MLN1 library are provided in SEQ ID NO: 341-782.

E. ISOLATION OF cDNA SEQUENCES FROM A SQUAMOUS CELL LUNG CARCINOMA LIBRARY USING PCR-BASED cDNA LIBRARY SUBTRACTION

A subtracted cDNA library for squamous cell lung carcinoma (referred to as SQL1) was prepared, essentially using the modified PCR-based subtraction process described above, except the tester and driver double stranded cDNA were separately digested with four restriction enzymes (DraI, MscI, PvuII and StuI) cDNA from a pool of two squamous cell lung carcinomas was subtracted against cDNA from a pool of 10 normal tissues, including normal lung, brain, kidney, liver, pancreas, skin, heart, spleen, esophagus and trachea.

Seventy-four clones were isolated and sequenced. The determined cDNA sequences for 22 of these clones are provided in SEQ ID NO: 223-244. The sequence of SEQ ID NO: 241 showed no significant homologies to previously identified sequences. The sequences of SEQ ID NO: 223, 225, 232, 233, 235, 238, 239, 242 and 243 showed some similarity to previously identified gene sequences, while the sequences of SEQ ID NO: 224, 226-231, 234, 236, 237, 240, 241 and 244 showed some similarity to previously isolated ESTs.

EXAMPLE 2

SYNTHESIS OF POLYPEPTIDES

Polypeptides may be synthesized on a Perkin Elmer/Applied Biosystems Division 430A peptide synthesizer using Fmoc chemistry with HPTU (O-Benzotriazole-N,N,N',N'-tetramethyluronium hexafluorophosphate) activation. A Gly-Cys-Gly sequence may be attached to the amino terminus of the peptide to provide a method of conjugation, binding to an immobilized surface, or labeling of the peptide. Cleavage of the peptides from the solid support

may be carried out using the following cleavage mixture: trifluoroacetic acid:ethanedithiol:thioanisole:water:phenol (40:1:2:2:3). After cleaving for 2 hours, the peptides may be precipitated in cold methyl-t-butyl-ether. The peptide pellets may then be dissolved in water containing 0.1% trifluoroacetic acid (TFA) and lyophilized prior to purification by C18 reverse phase HPLC. A gradient of 0%-60% acetonitrile (containing 0.1% TFA) in water (containing 0.1% TFA) may be used to elute the peptides. Following lyophilization of the pure fractions, the peptides may be characterized using electrospray or other types of mass spectrometry and by amino acid analysis.

EXAMPLE 3

PREPARATION OF ANTIBODIES AGAINST LUNG CANCER ANTIGENS

Polyclonal antibodies against the lung cancer antigen L773P (SEQ ID NO: 783) were prepared as follows.

Rabbits were immunized with recombinant protein expressed in and purified from *E. coli* as described above. For the initial immunization, 400 µg of antigen combined with muramyl dipeptide (MDP) was injected subcutaneously (S.C.). Animals were boosted S.C. 4 weeks later with 200 µg of antigen mixed with incomplete Freund's Adjuvant (IFA). Subsequent boosts of 100 µg of antigen mixed with IFA were injected S.C. as necessary to induce high antibody titer responses. Serum bleeds from immunized rabbits were tested for L773P-specific reactivity using ELISA assays with purified protein. Polyclonal antibodies against L773P were affinity purified from high titer polyclonal sera using purified protein attached to a solid support.

EXAMPLE 4

PROTEIN EXPRESSION OF LUNG TUMOR-SPECIFIC ANTIGENS

Full-length L773P (amino acids 2-364 of SEQ ID NO: 783), with a 6X His Tag, were subcloned into the pPDM expression vector and transformed into either BL21 CodonPlus or BL21 pLysS host cells using standard techniques. High levels of expression were observed in both cases. Similarly, the N-terminal portion of L773P (amino acids 2-71 of SEQ ID NO: 783; referred to as L773PA), with a 6X His tag were subcloned into the vector pPDM and transformed into BL21 CodonPlus host cells. Low levels of expression were observed by N-terminal sequencing. The sequence of the expressed constructs for L773P and L773PA are provided in SEQ ID NO: 784 and 785, respectively.

From the foregoing it will be appreciated that, although specific embodiments of the invention have been described herein for purposes of illustration, various modifications may

be made without deviating from the spirit and scope of the invention. Accordingly, the invention is not limited except as by the appended claims.

CLAIMS

1. An isolated polypeptide comprising at least an immunogenic portion of a lung tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(a) sequences recited in SEQ ID NO: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784 and 785;

(b) sequences that hybridize to a sequence of SEQ ID NO: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784 and 785 under moderately stringent conditions; and

(c) a complement of a sequence of (a) or (b).

2. An isolated polypeptide according to claim 1, wherein the polypeptide comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NO: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784 and 785 or a complement of any of the foregoing polynucleotide sequences.

3. An isolated polypeptide comprising a sequence recited in any one of SEQ

ID NO: 786 and 787.

4. An isolated polynucleotide encoding at least 15 amino acid residues of a lung tumor protein, or a variant thereof that differs in one or more substitutions, deletions, additions and/or insertions such that the ability of the variant to react with antigen-specific antisera is not substantially diminished, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide comprising a sequence recited in any one of SEQ ID NO: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784 and 785 or a complement of any of the foregoing sequences.

5. An isolated polynucleotide encoding a lung tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide comprising a sequence recited in any one of SEQ ID NO: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784 and 785 or a complement of any of the foregoing sequences.

6. An isolated polynucleotide comprising a sequence recited in any one of SEQ ID NO: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784 and

785.

7. An isolated polynucleotide comprising a sequence that hybridizes to a sequence recited in any one of SEQ ID NO: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784 and 785 under moderately stringent conditions.

8. An isolated polynucleotide complementary to a polynucleotide according to any one of claims 4-7.

9. An expression vector comprising a polynucleotide according to any one of claims 4-8.

10. A host cell transformed or transfected with an expression vector according to claim 9.

11. An isolated antibody, or antigen-binding fragment thereof, that specifically binds to a lung tumor protein that comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NO: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784 and 785 or a complement of any of the foregoing polynucleotide sequences.

12. A fusion protein comprising at least one polypeptide according to claim 1.

13. A fusion protein according to claim 12, wherein the fusion protein comprises an expression enhancer that increases expression of the fusion protein in a host cell transfected with a polynucleotide encoding the fusion protein.

14. A fusion protein according to claim 12, wherein the fusion protein comprises a T helper epitope that is not present within the polypeptide of claim 1.

15. A fusion protein according to claim 12, wherein the fusion protein comprises an affinity tag.

16. An isolated polynucleotide encoding a fusion protein according to claim 12.

17. A pharmaceutical composition comprising a physiologically acceptable carrier and at least one component selected from the group consisting of:

- (a) a polypeptide according to claim 1;
- (b) a polynucleotide according to claim 4;
- (c) an antibody according to claim 11;
- (d) a fusion protein according to claim 12; and
- (e) a polynucleotide according to claim 16.

18. A vaccine comprising an immunostimulant and at least one component selected from the group consisting of:

- (a) a polypeptide according to claim 1;
- (b) a polynucleotide according to claim 4;
- (c) an antibody according to claim 11;
- (d) a fusion protein according to claim 12; and
- (e) a polynucleotide according to claim 16.

19. A vaccine according to claim 18, wherein the immunostimulant is an adjuvant.

20. A vaccine according to claim 18, wherein the immunostimulant induces a predominantly Type I response.

21. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a pharmaceutical composition according to claim 17.

22. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a vaccine according to claim 20.

23. A pharmaceutical composition comprising an antigen-presenting cell that expresses a polypeptide according to claim 1, in combination with a pharmaceutically acceptable carrier or excipient.

24. A pharmaceutical composition according to claim 23, wherein the antigen presenting cell is a dendritic cell or a macrophage.

25. A vaccine comprising an antigen-presenting cell that expresses a polypeptide according to claim 1, in combination with an immunostimulant.

26. A vaccine according to claim 25, wherein the immunostimulant is an adjuvant.

27. A vaccine according to claim 25, wherein the immunostimulant induces a predominantly Type I response.

28. A vaccine according to claim 25, wherein the antigen-presenting cell is a

dendritic cell.

29. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of an antigen-presenting cell that expresses a polypeptide encoded by a polynucleotide recited in any one of SEQ ID NO: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784 and 785, and thereby inhibiting the development of a cancer in the patient.

30. A method according to claim 29, wherein the antigen-presenting cell is a dendritic cell.

31. A method according to any one of claims 21, 22 and 29, wherein the cancer is lung cancer.

32. A method for removing tumor cells from a biological sample, comprising contacting a biological sample with T cells that specifically react with a lung tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(i) polynucleotides recited in any one of SEQ ID NO: 1-782, 784, 785 and 788; and

(ii) complements of the foregoing polynucleotides;

wherein the step of contacting is performed under conditions and for a time sufficient to permit the removal of cells expressing the antigen from the sample.

33. A method according to claim 32, wherein the biological sample is blood or a fraction thereof.

34. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient a biological sample treated according to the method of claim 50.

35. A method for stimulating and/or expanding T cells specific for a lung tumor protein, comprising contacting T cells with at least one component selected from the group consisting of:

- (i) a polypeptide according to claim 1;
- (ii) a polypeptide encoded by a polynucleotide comprising a sequence provided in any one of SEQ ID NO: 1-782, 784, 785 and 788;
- (iii) a polynucleotide encoding a polypeptide of (i) or (ii); and
- (iv) an antigen presenting cell that expresses a polypeptide of (i) or (ii),

under conditions and for a time sufficient to permit the stimulation and/or expansion of T cells.

36. An isolated T cell population, comprising T cells prepared according to the method of claim 35.

37. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a T cell population according to claim 36.

38. A method for inhibiting the development of a cancer in a patient, comprising the steps of:

(a) incubating CD4⁺ and/or CD8⁺ T cells isolated from a patient with at least one component selected from the group consisting of:

- (i) a polypeptide according to claim 1;
- (ii) a polypeptide encoded by a polynucleotide comprising a sequence of any one of SEQ ID NO: 1-782, 784, 785 and 788;

- (iii) a polynucleotide encoding a polypeptide of (i) or (ii); and
 - (iv) an antigen-presenting cell that expresses a polypeptide of (i) or (ii);
- such that T cells proliferate; and

(b) administering to the patient an effective amount of the proliferated T cells, and thereby inhibiting the development of a cancer in the patient.

39. A method for inhibiting the development of a cancer in a patient, comprising the steps of:

(a) incubating CD4⁺ and/or CD8⁺ T cells isolated from a patient with at least one component selected from the group consisting of:

- (i) a polypeptide according to claim 1;
- (ii) a polypeptide encoded by a polynucleotide comprising a sequence of any one of SEQ ID NO: 1-782, 784, 785 and 788;
- (iii) a polynucleotide encoding a polypeptide of (i) or (ii); and
- (iv) an antigen-presenting cell that expresses a polypeptide of (i) or (ii);

such that T cells proliferate;

(b) cloning at least one proliferated cell to provide cloned T cells; and

(c) administering to the patient an effective amount of the cloned T cells, and thereby inhibiting the development of a cancer in the patient.

40. A method for determining the presence or absence of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient with a binding agent that binds to a lung tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(i) polynucleotides recited in any one of SEQ ID NO: 1-782, 784, 785 and 788; and

(ii) complements of the foregoing polynucleotides;

(b) detecting in the sample an amount of polypeptide that binds to the binding agent; and

(c) comparing the amount of polypeptide to a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient.

41. A method according to claim 40, wherein the binding agent is an antibody.

42. A method according to claim 43, wherein the antibody is a monoclonal antibody.

43. A method according to claim 40, wherein the cancer is lung cancer.

44. A method for monitoring the progression of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient at a first point in time with a binding agent that binds to a lung tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NO: 1-782, 784, 785 and 788 or a complement of any of the foregoing polynucleotides;

(b) detecting in the sample an amount of polypeptide that binds to the binding agent;

(c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and

(d) comparing the amount of polypeptide detected in step (c) to the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

45. A method according to claim 44, wherein the binding agent is an antibody.

46. A method according to claim 45, wherein the antibody is a monoclonal antibody.

47. A method according to claim 44, wherein the cancer is a lung cancer.

48. A method for determining the presence or absence of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a lung tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NO: 1-782, 784, 785 and 788 or a complement of any of the foregoing polynucleotides;

(b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide; and

(c) comparing the amount of polynucleotide that hybridizes to the oligonucleotide to a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient.

49. A method according to claim 48, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a polymerase chain reaction.

50. A method according to claim 48, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a hybridization assay.

51. A method for monitoring the progression of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a lung tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NO: 1-782, 784, 785 and 788 or a complement of any of the foregoing polynucleotides;

(b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide;

(c) repeating steps (a) and (b) using a biological sample obtained from the

patient at a subsequent point in time; and

(d) comparing the amount of polynucleotide detected in step (c) to the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

52. A method according to claim 51, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a polymerase chain reaction.

53. A method according to claim 51, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a hybridization assay.

54. A diagnostic kit, comprising:

- (a) one or more antibodies according to claim 11; and
- (b) a detection reagent comprising a reporter group.

55. A kit according to claim 54, wherein the antibodies are immobilized on a solid support.

56. A kit according to claim 54, wherein the detection reagent comprises an anti-immunoglobulin, protein G, protein A or lectin.

57. A kit according to claim 54, wherein the reporter group is selected from the group consisting of radioisotopes, fluorescent groups, luminescent groups, enzymes, biotin and dye particles.

58. An oligonucleotide comprising 10 to 40 contiguous nucleotides that hybridize under moderately stringent conditions to a polynucleotide that encodes a lung tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NO: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160,

162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784 and 785 or a complement of any of the foregoing polynucleotides.

59. A oligonucleotide according to claim 58, wherein the oligonucleotide comprises 10-40 contiguous nucleotides recited in any one of SEQ ID NO: 1, 11-13, 15, 20, 23-27, 29, 30, 33, 34, 39, 41, 43-46, 51, 52, 57, 58, 60, 62, 65-67, 69-71, 74, 76, 79, 80, 84, 86, 89-92, 95, 97, 98, 101, 110, 111, 113-119, 121-128, 130-134, 136, 138, 139, 141, 143, 146-151, 153, 154, 157-160, 162-164, 167-178, 180, 181, 183, 186-190, 192, 193, 195-220, 224, 226-231, 234, 236, 237, 240, 241, 244-246, 248, 254, 255, 261, 262, 266, 270, 275, 280, 282, 283, 288, 289, 290, 292, 295, 301, 303, 304, 309, 311, 341-782, 784 and 785.

60. A diagnostic kit, comprising:

- (a) an oligonucleotide according to claim 59; and
- (b) a diagnostic reagent for use in a polymerase chain reaction or hybridization assay.

COMPOSITIONS AND METHODS FOR THERAPY
AND DIAGNOSIS OF LUNG CANCER

ABSTRACT OF THE DISCLOSURE

Compositions and methods for the therapy and diagnosis of cancer, such as lung cancer, are disclosed. Compositions may comprise one or more lung tumor proteins, immunogenic portions thereof, or polynucleotides that encode such portions. Alternatively, a therapeutic composition may comprise an antigen presenting cell that expresses a lung tumor protein, or a T cell that is specific for cells expressing such a protein. Such compositions may be used, for example, for the prevention and treatment of diseases such as lung cancer. Diagnostic methods based on detecting a lung tumor protein, or mRNA encoding such a protein, in a sample are also provided.

SEQUENCE LISTING

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<141> 2000-03-06

<160> 789

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 527

<212> DNA

<213> Homo sapien

<400> 1

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acagacaaag	ccctcagaaa	agatacaaag	gcagagacat	tgattagaac	attatctcat	180
aacagaggtg	ggggccattac	ccaccattat	tgtaaaataa	ctgtaactaa	ccaaaacaca	240
tacaggcttc	tttaatggag	ttaataaaac	tatggcacat	tgggaatcag	gggcagaggt	300
actgttccca	gacggaaaac	tgggataaag	ggagccatgc	tgacagggcc	ttattccagt	360
ctaggttggt	agaaaggagc	cctagcccag	aaatgacagc	aaatagccat	aatcattatg	420
tggggctgaa	ccagaggaag	ccaggctgag	ccaagaagct	ggaagtatct	tgaacggctc	480
tccaaatcca	aagattatcc	atactcttta	tccctccagc	gatgtgt		527

<210> 2

<211> 490

<212> DNA

<213> Homo sapien

<400> 2

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actcgcaatt	ggttctgaaa	ttagaacggt	caccatcgta	cttaaaatct	taggggcatg	180
aagagtcagc	tagaacaagg	aaaaagaaag	tcgcaggtag	taggtaagta	ggtgggcaca	240
tgaaaagcca	agctgctctg	tccaacacca	gtgtacatgt	gctttaacta	aatgaactcc	300
agaggccaac	agcagcagac	ctgctcaatt	caccttccaa	atcagaacaa	gacaaaaaag	360
ctcaggcttg	agttgtcaac	tatgcatagg	ttccgccagt	gctgaggggt	gtgaggctct	420
agttgtgaag	aagctacaag	aaatcatgat	gcattgtgatc	tgggccgcac	tggcatttgc	480
agctattcag						490

<210> 3
 <211> 464
 <212> DNA
 <213> Homo sapien

<400> 3
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 aactacaaga cggtagagtc tttggaagaa accttgaaga aagcgtctcc tgatggttat 180
 gattgttatt ttgataatgt aggtggagag ttttcaaaca ctgttatcgg ccagatgaag 240
 aaatttggaa ggattgccat atgtggagcc atctctacat ataacagaac cggcccactt 300
 cccccaggcc cccccccaga gattgttatt tatcaggagc ttcgcatgga agcttttgtc 360
 gtctaccgct ggcaaggaga tgcccgccaa aaagctctga aggacttgct gaaatgggtc 420
 ttagagttta aatttcagct tccctacttt gtaattgact gact 464

<210> 4
 <211> 510
 <212> DNA
 <213> Homo sapien

<400> 4
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 gaggtgggct gggagattaa catcttacct ggggtccttc agataaacct gttggttttt 180
 cctgtctcat acaggcccat cttaagtttt gatgttgaat taaaactact tctacccct 240
 tagttataaa aaaggccaca aggagcattt atgtggatat ctggaagtga gatagttatt 300
 ccattccag gaaaagaaaa ataaagctaa gttacaaaac taaatctata tgcaataaag 360
 ttattatata ctgctttgtt taagcagagt cctctggaat ttatgtacag tacattagtt 420
 ttcagctatt tatattccac aagttagacc ttaagattct ctggttttaa gacaattggt 480
 aaagatactt cttaaagctct gagcagttca 510

<210> 5
 <211> 452
 <212> DNA
 <213> Homo sapien

<400> 5
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 agtggtagat ttagaagaag agaaccaaaa acttttgcta gaaaatcagc ttttacgaga 180
 gaaaactcat ggcctttag ttgagaacca ggagttaaga cagcgcttgg ggatggatgc 240
 cctggttgct gaagaggagg cggaagccaa ggtaaatcat ctccctttatt tggcgccca 300
 tgtgagtact ggttccaagt gacatgaccc agcgattatg tttacagtct ggacttctga 360
 tcaagagcgt tcttgaaatt ttccttcagt ttttaagacat tttcatgcag gcagagtgtt 420
 cttcccctaa aggcacttga cactcatttt tt 452

<210> 6
 <211> 336
 <212> DNA
 <213> Homo sapien

<400> 6

tatagagtgc	tgacatctga	cattgagaaa	ttcatgccta	ttgtttatac	tcccactgtg	60
ggtctggctt	gccaacaata	tagtttggtg	tttcggaagc	caagaggtct	ctttattact	120
atccacgata	gagggcataat	tgcttcagtt	ctcaatgcat	ggccagaaga	tgatcatcaag	180
gccattgtgg	tgactgatgg	agagcgtatt	cttggcttgg	gagaccttgg	ctgtaatgga	240
atgggcatcc	ctgtgggtaa	attggctcta	tatacagctt	gcggagggat	gaatcctcaa	300
gaatgtctgc	ctgtcattct	ggatgtggga	accgaa			336

<210> 7

<211> 376

<212> DNA

<213> Homo sapien

<400> 7

ctgtgggaaa	cctcattgtt	ctgtacaaaag	tactagctaa	accagaaagg	tgattccagg	60
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atatctttgg	ataatgttat	ttctattttt	tatttttttt	cattagaagt	taccaaatta	180
agatggtaag	acctctgaga	ccaaaatttt	gtcccatctc	tacccctca	caactgctta	240
cagaatggat	catgtcccc	ttatgttgag	gtgaccactt	aattgctttc	ctgctcctt	300
gaaagaaaga	aagaaagaag	actgtgtttt	tgccactgat	ttagccatgt	gaaactcatc	360
tcattacctt	tttctg					376

<210> 8

<211> 406

<212> DNA

<213> Homo sapien

<400> 8

ggtagggagc	aattctatta	tttggcattg	catggctggg	ttgaattaaa	acagggagtg	60
agaacagggt	agtctagaag	tccaactctg	aaaaggacca	ctgtacattt	gaacacacgg	120
ctgtgttaaa	gatgctgcta	atgtcagtc	ctgggtgcac	taaaggatct	cttattttat	180
gtaaaacggt	gggattgaca	agatagatct	gatactctgt	taagttacct	tctgaagcta	240
cttcttgtga	aatactaatt	acagcatcat	cctgccaaagc	gaaagaggca	ggcataagca	300
aggacaaatt	aaaagggggg	aagagcctta	tcatgatgag	gagtcttggt	ttgacatctt	360
gggaaaagct	gtccatagtg	tgaagtcgtc	aatttctcac	catggt		406

<210> 9

<211> 330

<212> DNA

<213> Homo sapien

<400> 9

actactacca	agagctgcag	agagacattt	ctgaaatggt	tttgcagatt	tataaacaag	60
ggggttttct	gggcctctcc	aatattaagt	tcaggccagg	atctgtgggt	gtacaattga	120
ctctggcctt	ccgagaagg	accatcaatg	tccacgacgt	ggagacacag	ttcaatcagt	180
ataaaacgga	agcagcctct	cgatataacc	tgacgatctc	agacgtcagc	gtgagtgatg	240
tgccatttcc	tttctctgcc	cagtctgggg	ctgggggtgcc	aggctggggc	atcgcgctgc	300
tggtgctggt	ctgtgttctg	gttgcgctgg				330

<210> 10

<211> 449

<212> DNA

<213> Homo sapien

<400> 10

ctgacggcctt	tgctgtccca	gagccgccta	aacgcaagaa	aagtcgatgg	gacagttaga	60
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ggtgtctcag	ggctggggtg	gggtccaaag	tgtaaggacc	ccctgccctt	agtggagagc	180
tggagcttgg	agacattacc	ccttcacag	aaggaatttt	cggatgtttt	cttgggaagc	240
tgttttggtc	cttgggaagca	gtgagagctg	ggaagcttct	tttggctcta	ggtgagttgt	300
catgcgggta	agttgaggtt	atcttgggat	aaagggtctt	ctagggcaca	aaactcactc	360
taggtttata	ttgtatgtag	cttatatttt	ttactaagggt	gtcaccttat	aagcatctat	420
aaattgagtt	ctttttctta	gttgtatgg				449

<210> 11

<211> 472

<212> DNA

<213> Homo sapien

<400> 11

cctcgatgca	tgctgtctta	cctctcatca	gcccacagtc	tgacacgagg	tcattctttgg	60
tctgtgggtga	ggtagggatg	tctgcagtct	acacaacagc	cctgcagaac	gggcctggac	120
aacccttggg	ggataagaca	gccacacatg	gctcaggctg	ttaggtgtcc	actgtcacag	180
tccaaagaga	aaggtacggc	ctccaagggg	gcagcttaag	ccaacatgta	agacttgggc	240
acgatgaaag	gacggggggtc	cagctacgaa	tgtttttgggt	cttgatgtca	agttgccagc	300
tactggaagg	caggagcagt	ttcttctttt	tcccactctg	tgctgggtac	ttgggagagg	360
cgaaataaat	accagactgt	ccactcctca	gcctaagggtc	cttctcaagt	cctgcacact	420
cagcacttgc	tctttaacgt	ggcatatgtt	ccccatctt	cccctggtaa	tg	472

<210> 12

<211> 371

<212> DNA

<213> Homo sapien

<400> 12

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actgccagcc	tagggatgca	cttgattccc	aagaaatgca	actgtcctat	tcgcaragcc	120
gtccacaggt	acctacccc	tggactgcag	caactttatt	accttaacta	gcacaraaca	180
gaggttgatt	taaactcctt	acactcactt	ctcaratcaa	tgaatgggca	aaraaacmcc	240
tcattggctct	gggaaggcat	gctgaraccc	gtttttgcaa	gtcctgagga	atggaaraat	300
atagctgcc	ggatcccaa	gtctagggca	gggagggkag	tatcggcatc	actttcactg	360
cattctgttg	g					371

<210> 13

<211> 493

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (493)

<223> n = A,T,C or G

<400> 13

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ctycaattgc	caatttggtg	gcctctaaag	ctttactttt	aggaacctct	gcaggcgcat	120
aggtgccaaa	tcccaggaca	ggcatgaagt	gaccatcatt	cagcttcaca	cactgatatt	180
tcgaatccat	ttctgtcnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	240
caacctgctc	ctcattattg	taaacatgtg	cagaatcaat	atggcggaac	ccagcttcta	300
ttgctaattt	tgtgacctcc	aaagctttac	ttctcggaac	cttggttctt	ccgagcgctc	360
agcaatcccc	ccgagcttct	ttgagacgtc	ctcagggtgc	ctttgacgat	gcgtcctcca	420
ctttcacaca	ctctagcatt	ccttcactgg	ggtcttcatt	gccccacatt	gggcagccag	480
gaatgttggg	gtg					493

<210> 14

<211> 540

<212> DNA

<213> Homo sapien

<400> 14

ccagatgggc	cataatatgt	caccgagcag	gtgaatggca	tttgtatgtc	agccttggtt	60
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ttaaaattat	gaccaccgct	ccttcaagg	gatgtagcac	ttttccattc	ctgtaccatg	180
tgatattgcc	atctggataa	ctgtcttctg	aaatgcagtc	acccaacttt	tttagctgct	240
ctgtttcgag	aaacagtgc	ttgcttacia	tttcagggtt	agatgggtgc	ttgaacacct	300
tgactattgt	aggtgcctca	aacacgttgt	cctcagttac	tagcatgcac	acaaatctct	360
tttcatcact	gaccccttga	ttactgatag	acaaagtgtg	gttttctgag	aggttcaatc	420
tgtctttgta	ttctgggtaca	tcgtcgtact	gcacactttt	ctttgtagag	gatctgaagg	480
caataaatac	tggggagcca	tcgggctttt	catattttcca	tttgcccaaa	catgagattc	540

<210> 15

<211> 421

<212> DNA

<213> Homo sapien

<400> 15

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tagcagtcaa	gtgtcttccc	caatccta	gtcccctgat	atgtctctag	cgacttgacc	120
atctcttggt	ccttgggact	ggggccagcc	tcttgtctgc	ccacttccct	ctcattagtc	180
agatagcccc	aaaggctcta	tctttagctc	ccagagaact	ttttggctct	cagtatttcc	240
cttccccctt	ccttccctatt	ccccacaact	gggggaggga	agggagaaca	ggggcacctg	300
atcatcaatc	tcccctgccc	ctctcttgaa	gccccctaga	tttggtatgaa	gagcaggcca	360
gtgagcaggg	caaagcctgc	taggagcaga	atgaccttga	ggatcctttg	ctcagaactg	420
g						421

<210> 16

<211> 236

<212> DNA

<213> Homo sapien

<400> 16

gccgtgtgtg	cttttcccag	tgccgaggta	cctatcgctc	acggccagga	gcttgtcgtg	60
gctgacagca	aagagctgct	ctctgtgggc	ctgcttcate	tcacccgaga	ggccgtacaa	120

gaagtgggtcc attcctttgt ctgaaggagc gacaggagca tctacgggtg agaagacaga	180
aagtttggct tcgtcgatgt cttgctgtgt gaattttcca gacttagccc agtcga	236

<210> 17

<211> 424

<212> DNA

<213> Homo sapien

<400> 17

ccagaaaggt gacagtgggt ttccagggcc tcttgggcct ccagggtccac ctggtgaagt	60
cattcagcct ttaccaatct tgtcctccaa aaaaacgaga agacatactg aaggcatgca	120
agcagatgca gatgataata ttcttgatta ctggatgga atggaagaaa tatttggttc	180
cctcaattcc ctgaaacaag acatcgagca tatgaaattt ccaatgggta ctgagaccaa	240
tccagcccga acttgtaaag acctgcaact cagccatcct gacttcccag atggtgaata	300
ttggattgat cctaaccaag gttgctcagg agattccttc aaagtttact gtaatttcac	360
atctgggtggt gagacttgca tttatccaga caaaaaatct gagggagtaa gaatttcac	420
atgg	424

<210> 18

<211> 154

<212> DNA

<213> Homo sapien

<400> 18

gtcaccaact ccttcagcgc ctccacaggg stttcggaca tgacagcaac cttttctccc	60
aggacaattg aaatttgcta aagggaagg ggaaagaaag ggaaaagga gaaaaagaa	120
cacaagagac ttaaaggaca ggaggaggag atgg	154

<210> 19

<211> 445

<212> DNA

<213> Homo sapien

<400> 19

caacaaaatt ggtgaacaca tggaagaaca tggcatcaag tttataagac agttcgtacc	60
aattaaagtt gaacaaattg aagcaggagc accaggccga ctgagagtag tagctcagtc	120
caccaatagt gaggaaatca ttgaaggaga atataatacg gtgatgctgg caataggaag	180
agatgcttgc acaagaaaaa ttggcttaga aaccgtaggg gtgaagataa atgaaaagac	240
tggaaaaata cctgtcacag atgaagaaca gaccaatgtg ccttacatct atgccattgg	300
cgatatattg gaggataagg tggagctcac cccagttgca atccaggcag gaagattgct	360
ggctcagagg ctctatgcag gttccactgt caaagtgtga ctatgaaaat gttccaacca	420
ctgtatttac tcctttggaa tatgg	445

<210> 20

<211> 211

<212> DNA

<213> Homo sapien

<400> 20

gggtgccact gctgcttga aagcactttc tgaacctaca gaagttgggt attgtctgaa	60
atcccagagg acccataagt gccggtgaca agctgtctgt caggggagag gctccagaac	120

ctgggttcgt cccagtgag accggaggat gatcccccaa ggactgcgca gcatcagctc 180
 ttggtgggcc tctgccttct cttctgtttg g 211

<210> 21
 <211> 396
 <212> DNA
 <213> Homo sapien

<400> 21
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 aaagattgat cgccgttctg gtaaaaagct ggaagatggc cctaaattct tgaagtctgg 120
 tgatgctgcc attgttgata tggttcctgg caagcccatg tgtgttgaga gcttctcaga 180
 ctatccacct ttgggtcgct ttgctgttcg tgatatgaga cagacagttg cgggtgggtgt 240
 catcaaagca gtggacaaga aggctgctgg agctggcaag gtcaccaagt ctgcccagaa 300
 agctcagaag gctaaatgaa tattatccct aatacctgcc accccactct taatcagtgg 360
 tggaagaacg gtctcagaac tgtttgtttc aattgg 396

<210> 22
 <211> 277
 <212> DNA
 <213> Homo sapien

<400> 22
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 aagccggcaa tctgtcctcc gctgtcccg tacttcaacta accagggcgg gcgctgcacc 120
 tccatcttct gggtgagggg atccacaaac cactcatccc ccatgaaatt gcaggccatg 180
 tctacatctc cattatataa taggatctgg gatttctgtg agctaagcag cttcagatac 240
 tgggagttca tgcttcggta gagacggcgg tactgta 277

<210> 23
 <211> 634
 <212> DNA
 <213> Homo sapien

<400> 23
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 agaaactctg gtccttctgt ctggtggcac ttagagtctt ttgtgccata atgcagcagt 120
 atggagggag gattttatgg agaaatgggg atagtcttca tgaccacaaa taaataaagg 180
 aaaactaagc tgcattgtgg gttttgaaaa ggttattata cttcttaaca attctttttt 240
 tcagggactt ttctagctgt atgactgtta cttgaccttc tttgaaaagc attcccaaaa 300
 tgctctatct tagatagatt aacattaacc aacataatct ttttttagatc gagtcagcat 360
 aaattttctaa gtcagcctct agtcgtggtt catctctttc acctgcattt tatttgggtg 420
 ttgtctgaag aaaggaaaga ggaaagcaaa tacgaattgt actatttgta ccaaattctt 480
 gggattcatt ggcaataat ttcagtgtgg tgtattatta aatagaaaaa aaaaattttg 540
 tttcctaggt tgaaggctc attgatacgt ttgacttatg atgaccattt atgcactttc 600
 aatgaattt gctttcaaaa taaatgaaga gcag 634

<210> 24
 <211> 512
 <212> DNA
 <213> Homo sapien

<400> 24

gcaaaacaag	cctaagcaag	cacaacgaag	agcagaagtc	agtgaatta	aaaagaggaa	60
aaagaaaaat	cataaaaaatc	ataaaaaagtt	atttctttga	aaagatcaat	gaaatttagc	120
aagactgaca	cagataaaaa	ggaattagac	ccaaatcagt	gaacaggaat	gaaatagagg	180
atatcactac	agaggctgca	gccattgaaa	ggataattag	gaaatcccac	agataacttt	240
gtgctcataa	atttgacaat	gtagaggaaa	tatctttagt	tttaattagc	tttttatttt	300
agtttttctc	aaaaactaaa	acttaataaa	actcaaccaa	gacaaaatag	acaatcagaa	360
tgtaggcata	cctcagagat	gtggcggatt	tggtttcaga	ctactgcaat	aaaccaaata	420
tggcaataaa	aggagtcaca	gaaagtgggt	tcccagtgta	tatatataaa	agttacattt	480
actctatgaa	gtgcaataac	attttgtcta	aa			512

<210> 25

<211> 461

<212> DNA

<213> Homo sapien

<400> 25

ctctgtttca	gcacctcatt	gggattattg	aactcattaa	attctttaca	tgaacttgaa	60
ttgttcattg	aaatctctag	ccatttcctt	ggttaaacag	gataatcttt	ttttttcact	120
aaagaacatt	cgtgggtggt	tagtgatgag	gttaatatct	ccctcttgtc	cacctccaca	180
ttggaaaaac	cacgttggac	tgagttttga	ggagcaaaga	actaatcact	tgaccaagg	240
ggccctgtat	ccccacaagc	cctgggtatt	tttctctcat	agagagaaga	gggtctgtat	300
ggatacctga	aaatgtgatt	ttatatattc	ttggcatcca	ggggagaaaa	atcaaaaagc	360
aaggaagtta	cagttatctc	cccagaaatt	aatgggtcat	gtcaagacta	taggttttca	420
tttccttctg	ttgcttggtt	gaatgatggt	cttggtggga	a		461

<210> 26

<211> 317

<212> DNA

<213> Homo sapien

<400> 26

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taggatttat	tacactaaaa	aaaaattagt	ttttgaaaag	aaataggaga	atacagaaac	120
atgaatttca	cgaggctatc	atctaacagt	gggggctttc	tacacacgtg	gtgccaaaat	180
gtgtcattct	gagtcaattg	caattcctct	ctaggagtga	aaagagataa	aagataagcc	240
aagaaccctg	gacagattct	tggtgttggt	gacaaagagg	aaaggacctg	agaatggggc	300
tggtggggag	agggggg					317

<210> 27

<211> 250

<212> DNA

<213> Homo sapien

<400> 27

taattgctgt	gattattaga	attctatcat	gactgtattg	tagtttttgc	tctattycag	60
ataagcmaga	tctaagaagt	tatcaaaaact	attcttttaa	atgctaaagc	aggtaacttt	120
ttcttccatt	attttttcct	cctaccactg	agttttgtaa	tgaattcctt	gtgtatacaa	180
gcaatacagg	tgaataactaa	actgttattt	ttagcttctt	caaaagctat	tttagaaagc	240
ttcctggaaa						250

<210> 28
 <211> 532
 <212> DNA
 <213> Homo sapien

<400> 28
 cctatatcat tcatttatac agaagctgct tgctgcttag caagttggtg gggttgattt 60
 tccttggttg ctttgcagac ctcccttgag aggattcctt ctggatggag atttccttgt 120
 tgctgtctcc cttgccacaa ctctgaccaa gattgcattg cgctatgtag ctttggttca 180
 ggagaagaaa aagcaaaatt cttttgttgc tgaggctatg ttgctcatgg ctactatcct 240
 gcatttgga aaatcctctc ttcctaagaa gccattact gatgatgatg tggatcgaat 300
 ttccctgtgc ctcaaggtct tgtctgaatg ttcaccttta atgaatgaca ttttcaataa 360
 ggaatgcaga cagtcccttt ctcacatgtt atctgctaaa ctagaagaag agaaattatc 420
 ccaaaagaaa gaatctgaaa agaggaatgt gacagtacag cctgatgacc ccatttcctt 480
 catgcaacta actgctaaga atgaaatgaa ctgcaaggaa gatcagtttc ag 532

<210> 29
 <211> 486
 <212> DNA
 <213> Homo sapien

<400> 29
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 ctctctattg tcatgttgct tctttctgca aatatatctt acaagttaga ctttaaacct 120
 ttgatctccc acaccaaaag agaaaataat atttatatgg aagtaatttt attttagtgt 180
 ttgtgattta ttgtggagag caggbgttta aaaatttttag aatttccttt taacaaaatc 240
 aaatacattg ttaaggtaac aaagaataat tcaactatttc agcatttcaa agcaacatat 300
 tctacaactt caaagatatt tgcaaaaata atacaactgt tgaagttcaa atgttatgga 360
 aagaaacatt agaagtatga aaagtggtag aaaaacatgt ttctttttat tctcttgat 420
 atatatctat atatttagga aaatacatat atgtatgtgt atgtatatat atgtatgaaa 480
 atatac 486

<210> 30
 <211> 240
 <212> DNA
 <213> Homo sapien

<400> 30
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 aatgtctctt gaccccagtt ccaagttcac cctggtgcct gttcttcctc ccaccttttg 120
 gggttctata actgcatccc ccacacatct ttcaccacca cccatacat accagctctc 180
 ctgtttgtggg attcaggaca taggaagagt tgctgaaggc acgggtgctt ttgggattcg 240

<210> 31
 <211> 233
 <212> DNA
 <213> Homo sapien

<400> 31
 ccattgatgc aggatatcgg cacattgact gtgcctatgt ctatcagaat gaacatgaag 60

tgggggaagc	catccaagag	aagatccaag	agaaggctgt	gaagcgggag	gacctgttca	120
tcgtcagcaa	gttgtggccc	actttctttg	agagaccctt	tgtgaggaaa	gcctttgaga	180
agaccctcaa	ggacctgaag	ctgagctatc	tggacgtcta	tcttattcac	tgg	233

<210> 32

<211> 233

<212> DNA

<213> Homo sapien

<400> 32

gaggaatgct	ggactggagg	cccctggagc	cagatggcaa	gagggtgaca	gcttcctttc	60
ctgtgtgtac	tctgtccagt	tcctttagaa	aaaatggatg	cccagaggac	tcccaaccct	120
ggcttggggg	caagaaacag	ccagcaagag	ttaggggcct	tagggcactg	ggctgttgtt	180
ccattgaagc	cgactctggc	cctggccctt	acttgcttct	ctagctctct	agg	233

<210> 33

<211> 319

<212> DNA

<213> Homo sapien

<400> 33

ctgggcctgg	atggtctagg	atagccttac	tcacttgcct	ggcaggtgac	aggctgttgg	60
ctggaattgc	tgggttctcc	tccatgtggc	ctctccagta	ggctagctca	ggcttattca	120
catgatggct	tcaggattcc	aaagagagtg	agagtagaag	ctgaaagact	tcttgagttc	180
ttggcctgga	actgggacta	ggacagtgtc	acttctgcta	agttcttttg	gtcagagcaa	240
atcacaaggc	tttaccaga	ttcaagggat	gagaaacaga	ctacatgtct	tgatgagggg	300
aaccacaaag	agcttgtgg					319

<210> 34

<211> 340

<212> DNA

<213> Homo sapien

<400> 34

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caactgccag	atggatgtgg	ctggaagtca	gaggacattc	tcgtgggttc	gtgggcctag	120
ggtacaaatg	acctcagcgt	gacagcaaac	aggacagaga	agaccaggct	cttactcagg	180
aatccaccag	ccaggagaat	gacaatgttg	aacaccggaa	ccctgatgat	atctgtcaca	240
tttgtaaggt	tgatttcaga	gtcaggagtg	gagacatcgg	cagttgactt	gggtggagct	300
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<210> 35

<211> 170

<212> DNA

<213> Homo sapien

<400> 35

acatgggtcc	ttcactcctc	gctgagatgt	tgcggcagcc	ttttctttcca	atgcggttgt	60
ggcaggagaa	tccacggatg	taatgttttc	acctttttcc	ctgaggggtgc	tttctgagga	120
accagycctt	aagaggtggg	gtcttggatt	cctgaccag	gcgtccggca		170

<400> 36

<210> 37

<400> 37

<210> 38

<400> 38

<210> 39

<400> 39

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ttttatgaac aagatataag gatcaaaaaa aagggtgttg atatgttttt ccaagcagag      60
atgtactcga ctctgtccta tttagccttc ccatacctga cttctaataca cttttcctgg      120

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tgccctycca	tctccctaac	ccccctcac	agggatgcct	cctcccaagg	ctccagaaac	180
tctgaccctc	gcactgctgg	agggagccca	tgaattgctg	gtcaatatcg	ctcatcctct	240
akactccatc	ctgcgtgtgc	ttcttcctac	aagagctaga	gaggcactga	ctgataaata	300
cctgtcacct	gcccctttcc	cagaggggtga	aactccaccc	actcccactg	cagaaatgaa	360
tcttaaattgg						370

<210> 40

<211> 204

<212> DNA

<213> Homo sapien

<400> 40

cctgaggggtt	ttcccttttaa	atttttcattg	agttgtccat	ctccagcata	tagggcttca	60
ggagcagagc	agaccttggt	tttagtggtt	ccatgggata	aaatgggatt	ggaggagcta	120
gaagaattca	gggtctggtc	caatctgcca	gtcttcctga	aatatcgaaa	atacaccagg	180
gctgctatat	cagagccacc	ctgg				204

<210> 41

<211> 447

<212> DNA

<213> Homo sapien

<400> 41

caggcagcaa	ttcgtaaaga	attaaatgag	tacaaaagta	atgaaatgga	ggtacatgca	60
tcaagcaagc	acttgacaag	attccacagg	ccatagagat	tttcttctga	gaagaatttg	120
tgtttaattt	tttgatacca	acactgaaca	ttcatcaggg	aactttcctg	aagttcagct	180
caagactacc	ctacctgctg	tgtttgtgag	aagagtagga	tcacacacac	aggtgcaatc	240
ttgaccacac	ttacctgcaa	gaggagtaac	cagaggacac	acttccttcc	ttctttgggtg	300
tctgaggagt	gtgaactgtt	ggggtcagtt	aagacccaac	ataactctat	cagaagaaaa	360
ctgttgtttg	cctttcaacc	ttgttttaca	gttctgcagt	gtagtggagg	acgggcaacg	420
tgcattgtgca	ggctcaccac	tcccagg				447

<210> 42

<211> 498

<212> DNA

<213> Homo sapien

<400> 42

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attagattct	cattgcactg	aactatattt	atatgcctaa	gtatgtagaa	gtaaaattat	120
ataccccaac	aggattttat	cttggtgtat	atattaaatg	ttatttctgc	atatagggtc	180
ttttatggag	aaactgatga	tgataagctt	aatactcact	tgttttagcag	catctgaatg	240
cacaaatgct	ttatatatct	cttctgcttt	acagggcaaa	agatcagact	ctgttttctt	300
atagtcttca	caagccagcc	agaactcaat	attctcctca	ctgaattcag	acttttaggaa	360
acttccaaag	acattttgac	cagtttggtt	ggcaagaagt	ttttccagag	attgagacca	420
ttgcattact	tcagcagcag	aaagtacatc	cttggacttg	gaagatttca	ttccagattc	480
cagatgtggg	atcataga					498

<210> 43

<211> 312

<212> DNA

<213> Homo sapien

<400> 43

caggaaggcg	gccaagaatg	tgagtgcaaa	gattggttcc	tgagagcccc	gagaagaaaa	60
ttcatgacag	tgtctgggct	gccaaagaag	cagtggccct	gtgatcattt	caagggcaat	120
gtgaagaaaa	caagacacca	aaggcaccac	agaaagccaa	acaagcattc	cagagcctgc	180
cagcaatttc	tcaaacaatg	tcagctaaga	agctttgctc	tgcttttgta	ggagctctga	240
gcgcccactc	ttccaattaa	acattctcag	ccaagaagac	agtgagcaca	cctaccagac	300
actctttctc	tc					312

<210> 44

<211> 417

<212> DNA

<213> Homo sapien

<400> 44

ctaacacatt	tactctccac	tattcgtact	ctggtagcca	tgtaaccccc	atcagagatt	60
ccttctcaag	ccatgtctca	gagctgagag	gcacccagc	aagttttgca	gtcacagtt	120
ttttccgtaa	attacttatt	ctataaaatt	ggagtaggcc	ataaactttg	gagggcccta	180
gaccaatttt	ttggattatt	tttctcttc	tatcattccg	ctgatcttag	atattctctg	240
cattaaatat	taaatatcac	ttctaggctg	aaaaatcccc	ctaaaaatat	ttctagctca	300
gatttttctt	ccaaattctg	caatagaaga	tcacaatgtg	aactctgcat	ctccatgtta	360
aagtctaattg	gacattcaca	cttagcatgt	ctcaaagaaa	tctcatgtaa	accatgg	417

<210> 45

<211> 494

<212> DNA

<213> Homo sapien

<400> 45

cgcgtgtctg	tggtatgtgt	acacgtgcat	gttctgcatg	tctgtaggtc	acacatgctt	60
tggtgcatgt	acacgtgtgt	gtgtgtatgc	gtgtaggagc	tcacacttgt	gtacacgttt	120
gtgtgcatgc	atgtgtgcag	gagcttgcac	gtttgtggtg	ggtagcatgta	catatgtgag	180
tgatcctgtg	tgcaagcccc	catgtggaca	tggtatgag	tgagcgtgga	gccaaaagcc	240
aggtaacacg	catgcagcag	gccactgtg	cgtgtctgag	acggtctgtg	gcagggactg	300
ggtgtgaatc	atgcagcagg	cccactgtgc	gtgtctgaga	cgggtctgtg	cagggactgg	360
gtgtgaatca	gtgaccgtgt	ctctgaccaa	catgctgaat	tacaaattga	taatttatta	420
acctgtgcag	caacaaataa	gatttttcaa	aactcaacaa	agtgtctcaa	gttgacatta	480
cttgcttcaa	agtt					494

<210> 46

<211> 516

<212> DNA

<213> Homo sapien

<400> 46

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cttctattgc	taattttgtg	acctccaaag	ctttacttct	cggaacctcc	tcctttggcc	120
gtcatttgat	cattcaactc	tttgtcagtg	gcaactcccg	ctatttttgt	gtgttggttt	180
gttactacac	agtgagcaca	aacatgggtg	tccaatacag	aggctcttcc	tgtcagggtg	240
caaccagaaa	gttcatctaa	cactgtgata	tttgcatcct	tcttgaacag	ttgttggtg	300

aagattcatt	tgatgaatcg	atTTTTcaaa	agagatgatt	cttggttctt	ccgagcgctc	360
agctctcccg	ccgagcttct	ttgagacgtc	ctcaggtgtc	ctttgacgat	gcgtcctcca	420
ctttcacaca	ctctagcatt	ccttcactgg	ggcttctcatt	gccccacatt	gggcagccag	480
gaatgttggg	gtgatcagac	acaacaccag	gtcatg			516

<210> 47

<211> 459

<212> DNA

<213> Homo sapien

<400> 47

ccaattcaga	gtggcattct	gcatttctgt	ggcttccaag	tcttagaacc	tcaactgaca	60
tatagcattg	ggcacactcc	agcagacgcc	cgaattcaaa	tcctggaagg	atggaagaaa	120
cgcttgagga	atatttgagg	tgagacacca	ctgtattttg	ctccaagcag	cctctttgac	180
ctaaacttcc	aggcaggatt	cttaatgaaa	aaagaggtac	aggatgagga	gaaaaacaag	240
aaatttggcc	tttctgtggg	ccatcacttg	ggcaagtcca	tcccaactga	caaccagatc	300
aaagctagaa	aatgagattc	cttagcctgg	atttccttct	aacatgttat	caaactctgg	360
tatctttcca	ggcttccctg	acttgcttta	gtttttaaga	tttgtgtttt	tctttttcca	420
caaggaataa	atgagagggg	atcgaksaaa	aaaaaaaa			459

<210> 48

<211> 430

<212> DNA

<213> Homo sapien

<400> 48

cctatattca	gccacagcct	ctgggagtg	tgctgataat	cggagcttgg	aattaccctt	60
tcgtttctac	cattcagcca	ctgataggag	ccatcgctgc	aggaaatgct	gtgattataa	120
agccttctga	actgagtga	aatacagcca	agatcttggc	aaagcttctc	cctcagtatt	180
tagaccagga	tctctatatt	gttattaatg	gtggtgttga	ggaaaccacg	gagctcctga	240
agcagcgatt	tgaccacatt	ttctatacgg	gaaacactgc	ggttggcaaa	attgtcatgg	300
aagctgctgc	caagcatctg	acccctgtga	ctcttgaact	gggagggaaa	agtccatgtt	360
atattgataa	agattgtgac	ctggacattg	tttgcagacg	cataacctgg	ggaaaataca	420
tgaattgtgg						430

<210> 49

<211> 288

<212> DNA

<213> Homo sapien

<400> 49

ccatccgaag	caagattkca	gatggcagtg	tgaagagaga	agacatatct	tacacttcaa	60
agctttggwg	caattcccat	cgaccagagt	tggtccgacc	agccttgga	aggctactga	120
aaaatcttca	attggattat	gttgacctct	accttattca	ttttccagtg	tctgtaaagc	180
caggtgagga	agtgatccca	aaagatgaaa	atggaaaaat	actatttgac	acagtggatc	240
tctgtgccac	gtgggaggcc	rtggagaagt	gtaaagatgc	aggattgg		288

<210> 50

<211> 411

<212> DNA

<213> Homo sapien

<400> 50

ccagagaatg	acattcatgt	ccccgtggat	cccttgcaga	gagtacatgg	agccactgcc	60
accagtgggtg	atggaaagca	ctgtcttctt	actccggaag	ggtcctttgt	catacatggc	120
agcgtaagtg	taagcaaact	ctcctatgaa	cactcgctca	aaccagcctt	tcagaatggc	180
agggactcca	aaccactgca	gggggaactg	gaatatcaca	aggtctgcgg	cttcagctt	240
cttttgttca	gccacaatat	ctgggctcag	atggccttct	ttataagcca	gaacagactc	300
ggcaggatac	tgaaagtctg	cagggtcctt	cagtttacct	gtgatgtcct	ttctggaaat	360
gatgggattg	aagttcatgg	catagaggtc	cgactccacc	acctcccatc	c	411

<210> 51

<211> 503

<212> DNA

<213> Homo sapien

<400> 51

gatatcttat	gattaaaaac	aaattaaatt	ttaaaacacc	tgaagatata	ttagaagaaa	60
ttgtgcaccc	tccacaaaac	atacaaagtt	taaaagtttg	gatctttttc	tcagcaggta	120
tcagttgtaa	ataatgaatt	agggggccaaa	atgcaaaacg	aaaaatgaag	cagctacatg	180
tagttagtaa	tttctagttt	gaactgtaat	tgaatattgt	ggcttcatat	gtattatttt	240
atattgtact	tttttcatta	ttgatggttt	ggactttaat	aagagaaaatt	ccatagtttt	300
taatatccca	gaagtgagac	aatttgaaca	gtgtattcta	gaaaacaata	cactaactga	360
acagaagtga	atgcttatat	atattatgat	agccttaaac	ctttttcctc	taatgcctta	420
actgtcaaat	aattataaacc	ttttaagca	taggactata	gtcagcatgc	tagactgaga	480
ggtaaact	gatgcaatta	aga				503

<210> 52

<211> 503

<212> DNA

<213> Homo sapien

<400> 52

gatatcttat	gattaaaaac	aaattaaatt	ttaaaacacc	tgaagatata	ttagaagaaa	60
ttgtgcaccc	tccacaaaac	atacaaagtt	taaaagtttg	gatctttttc	tcagcaggta	120
tcagttgtaa	ataatgaatt	agggggccaaa	atgcaaaacg	aaaaatgaag	cagctacatg	180
tagttagtaa	tttctagttt	gaactgtaat	tgaatattgt	ggcttcatat	gtattatttt	240
atattgtact	tttttcatta	ttgatggttt	ggactttaat	aagagaaaatt	ccatagtttt	300
taatatccca	gaagtgagac	aatttgaaca	gtgtattcta	gaaaacaata	cactaactga	360
acagaagtga	atgcttatat	atattatgat	agccttaaac	ctttttcctc	taatgcctta	420
actgtcaaat	aattataaacc	ttttaagca	taggactata	gtcagcatgc	tagactgaga	480
ggtaaact	gatgcaatta	aga				503

<210> 53

<211> 531

<212> DNA

<213> Homo sapien

<400> 53

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gaatagtaca	tgggaaattc	tctttaggcc	aggtctagta	ttacagkgtg	gkgctcaagg	120
cgcgccatca	gaacagtgat	actctcccaa	cagattttcat	ccaccccgtc	tccactaact	180

tttgccataa	aaattcctct	gaattgtatc	ttcttggaag	aagtaaata	ctgttcgact	240
atacaaagaa	acagagaaac	cactcccatt	gcaatcaatc	ttcaagagag	ggagcaggca	300
agccgtgttc	tttctgctga	gttttataga	ctctgacaag	ctgtgaaata	aacataaaca	360
gaagacaaaa	cagtgccaca	aataagcagt	agatgaccct	gtgacaagac	ggcattgcag	420
aacaaagact	gacgtttaaa	ggggagtcac	gcagagtaac	atgggaacac	aagcctgaca	480
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<210> 54

<211> 450

<212> DNA

<213> Homo sapien

<400> 54

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taaaaatgaaa	aggcactctc	gtgttctcct	cactctgtgc	actttgctgt	tgggtgtgaca	120
aggcatttaa	agatgtttct	ggcattttct	ttttatttgt	aagggtgggtg	taactatggt	180
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acaaccgaga	caaacccttg	atgtctcttg	ctcggcgttg	aggctgtggg	gaagatgcct	300
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gggcatccat	ttagcttcag	gttgtcttgt	ttctgtatat	agtgacatag	cattctgctg	420
ccatcttagc	tgtggacaaa	gggggggtcag				450

<210> 55

<211> 648

<212> DNA

<213> Homo sapien

<400> 55

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caagtcaaaa	gacattgttc	tggttgccta	tagtgctctg	ggatcccacc	gagaagaacc	180
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aaagcacaag	cgaaccccag	ccctgatttg	cctgcgtctac	cagctrcagc	gtgggggttgt	300
ggtcctggcc	aagagctaca	atgagcagcg	catcagacag	aacgtgcagg	tgtttgaatt	360
ccagttgact	tcagaggaga	tgaagccat	agatggccta	aacagaaatg	tgcgatattt	420
gacccttgat	atttttgctg	gcccccttaa	ttatccattt	tctgatgaat	attaacatgg	480
agggcattgc	atgaggtctg	ccagaaggcc	ctgcgtgtgg	atgggtgacac	agaggatggc	540
tctatgctgg	tgactggaca	catcgctctc	ggttaaatct	ctcctgcttg	gygayttcag	600
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<210> 56

<211> 536

<212> DNA

<213> Homo sapien

<400> 56

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aaactataga	actcttcatt	gtcagcaaac	caaagagtca	ctgcatcaat	gaaagttcaa	120
gaacctcctg	tacttaaaaca	cgattcgcaa	cgttctgtta	TTTTTTTTgt	atgttttagaa	180
tgctgaaatg	TTTTtgaagt	taaataaaca	gtattacatt	TTTaaaactc	ttctctatta	240
taacagtcaa	tttctgactc	acagcagtga	acaaaccccc	actccattgt	atttggagac	300

tggcctccct	ataaatgtgg	tagcttcttt	tattactcag	tggacctgcc	cgggcggccg	360
ctcgaagccg	aattccagca	cactggcggc	cgttactagt	ggatccgagc	tcggtaccaa	420
gcttggccgt	aatcatggtc	atagctgttt	cctgtgtgaa	attgttatcc	gctcacaatt	480
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<210> 57 <211> 391
 <212> DNA
 <213> Homo sapien

<400> 57						
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ctttagtagt	agttttaaagt	agtaactgct	actgtatttta	gtgggggtgga	attcagaaga	120
aatttgaaga	ccagatcatg	gggtggtctgc	atgtgaatga	acaggaatga	gccggacagc	180
ctggctgtca	ttgctttctt	cctccccatt	tggacccttc	tctgccctta	cattttttgtt	240
tctccatcta	ccaccatcca	ccagtctatt	tatttgtcta	gttggatttc	atttcttctg	300
gaaaatttat	tgtttattgg	catgtgaccc	ttgactgatg	gcttcattag	cattytgttt	360
ttcttttttg	atccttaata	gaaaactcaa	t			391

<210> 58
 <211> 455
 <212> DNA
 <213> Homo sapien

<400> 58						
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gccctagcca	acgccgcatg	agagggagtg	tgccgagggc	ttctgagaag	gtttctctca	120
catctagaaa	gaagcgctta	agatgtggca	gccccctctc	ttcaagtggc	tcttgtcctg	180
ttgccctggg	agttctcaaa	ttgctgcagc	agcctccacc	cagcctgagg	atgacatcaa	240
tacacagagg	aagaagagtc	aggaaaagat	gagagaagtt	acagactctc	ctgggcgacc	300
ccgagagctt	accattcctc	agacttcttc	acatggtgct	aacagatttg	ttcctaaaag	360
taaagctcta	gaggccgtca	aattggcaat	agaagccggg	ttccaccata	ttgattctgc	420
acatgtttac	aataatgagg	agcaggttgg	actgg			455

<210> 59
 <211> 398
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(398)
 <223> n = A,T,C or G

<400> 59						
ctcagaggca	gcgtgcgggt	gtgctctttg	tgaaattcca	ccatggcgta	ccgtggccag	60
ggtcagaaaag	tgcagaaggt	tatggtgcag	cccatcaacc	tcattcttcag	atacttacia	120
aatagatcgc	ggattcaggt	gtggctctat	gagcaagtga	atatgcggat	agaaggctgt	180
atcattgggt	ttgatgagta	tatgaacctt	gtattagatg	atgcagaaga	gattcattct	240
aaaacaaagt	caagaaaaca	actngntcgg	atcatgctaa	aaggagataa	tattactctg	300
ctacaaaagt	tctccaacta	gaaatgatca	atgaagtgag	aaattgttga	gaaggatata	360
gtttgttttt	agatgtcctt	tgtccaatgt	gaacattt			398

<210> 60
 <211> 532
 <212> DNA
 <213> Homo sapien

<400> 60
 gacttctgag acctggggca cccgggcctt tgcggcagct actggcaggg cctggccacc 60
 tcataggact cagttccctt ctgaacactc gggggacatg ggccctctaac tgcccactct 120
 gatatgcctg ggtgagccta ggaggggaagg ctctgatttg gatttctcca gtcaaagctc 180
 acagaaaaaa acctggcact ttgattttca tgggatggtc ctaacagggg cagtcacctc 240
 cgagcagttt ggggaacccag tttcttgctc tgggccctca ggtcagcctg gctgaattag 300
 gacccttctt tggcacaggg gtgagaaaga gcttggggaa cgcttggcat tatggagggc 360
 tggaaagggc tcaaccccga tttggagaga agtttgggat ggagtgggag agagattgag 420
 agagcgagca ggaaaagagg tcttggagcc tgggactgat ggtggataag gcctggaaaag 480
 aasatgacsa ggaggaggag agaggggaagt ggggtgatga ggagcaggct ga 532

<210> 61
 <211> 466
 <212> DNA
 <213> Homo sapien

<400> 61
 gcgacggcga cgtctctttt gactaaaaga cagtgtccag tgctccagcc taggagtcta 60
 cggggaccgc ctcccgcgcc gccaccatgc ccaacttctc tggcaactgg aaaatcatcc 120
 gatcggaaaa cttcgaggaa ttgctcaaag tgctgggggt gaatgtgatg ctgaggaaga 180
 ttgctgtggc tgcagcgtcc aagccagcag tggagatcaa acaggaggga gacactttct 240
 acatcaaaac ctccaccacc gtgcgcacca cagagattaa cttcaagggtt ggggaggagt 300
 ttgaggagca gactgtggat gggaggccct gtaagagcct ggtgaaatgg gagagtgaga 360
 ataaaatggg ctgtgagcag aagctcctga agggagaggg cccaagacc tcgtggacca 420
 gagaactgac caacgatggg gaactgatcc tgaccatgac ggcgga 466

<210> 62
 <211> 548
 <212> DNA
 <213> Homo sapien

<400> 62
 ttttgaatth acaccaagaa cttctcaata aaagaaaatc atgaatgctc cacaatttca 60
 acataccaca agagaagtta atttcttaac attgtgttct atgattattt gtaagacctt 120
 caccaagttc tgatatcttt taaagacata gttcaaaatt gcttttgaaa atctgtattc 180
 ttgaaaatat ccttgttgtg tattaggttt ttaaatacca gctaaaggat tacctcactg 240
 agtcatcagt accctcctat tcagctcccc aagatgatgt gtttttgctt accctaagag 300
 aggttttctt cttattttta gataattcaa gtgcttagat aaattatgtt ttctttaagt 360
 gtttatggta aactctttta aagaaaattt aatatgttat agctgaatct ttttggtaac 420
 tttaaatctt tatcatagac tctgtacata tgttcaaaat agctgcttgc ctgatgtgtg 480
 tatcatcggg gggatgacag aacaaacata tttatgatca tgaataatgt gctttgtaaa 540
 aagatttc 548

<210> 63
 <211> 547

<212> DNA

<213> Homo sapien

<400> 63

tttccaaagc	ggagacttcc	gacttcctta	caggatgagg	ctgggcattg	cctgggacag	60
cctatgtaag	gccatgtgcc	ccttgcccta	acaactcact	gcagtgctct	tcatagacac	120
atcttgacgc	atctttctta	aggctatgct	tcagtttttc	tttgtaagcc	atcacaagcc	180
atagtggtag	gtttgccctt	tggtacagaa	ggtgagttaa	agctgggtgga	aaaggcttat	240
tgcattgcat	tcagagtaac	ctgtgtgcat	actctagaag	agtagggaaa	ataatgcttg	300
ttacaattcg	acctaatatg	tgcattgtaa	aataaatgcc	atatttcaaa	caaaacacgt	360
aattttttta	cagtatgttt	tattaccttt	tgatatctgt	tgttgcaatg	ttagtgatgt	420
tttaaaatgt	gatcgaaaat	ataatgcttc	taagaaggaa	cagtagtgga	atgaatgtct	480
aaaagatctt	tatgtgttta	tggtctgcag	aaggattttt	gtgatgaaag	gggatttttt	540
gaaaaat						547

<210> 64

<211> 528

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (528)

<223> n = A,T,C or G

<400> 64

cacctmctcc	cscwggcgc	ttwtctsgac	gccttgccca	scgggcccgc	cgaccccttg	60
srccatggac	cccgtctgcc	csctggggmt	gtygatkctg	ctgcttttcc	tgrekgaggc	120
tgcactgggc	gatgctgac	argagccaac	aggaaataac	rcggagatct	gkctcctgcc	180
cctagactac	kgaccctgcc	kggcccact	tytccgytac	tactacgaca	ggyacacgca	240
gagctgccgc	cwgttcctgk	rckggggctg	crasggcaac	rccaacwatt	yctacacckg	300
kgaggmttrc	gackatgctw	gstgggargat	agaaaaagtt	cccaaasttt	gccggctgma	360
agtgaatgag	gacnaccagg	gtgaggggta	cacagataag	tattttcttta	atctaakkwc	420
catgacatgw	gaaaaattct	ttnnccgttg	gngtcaccgg	accggattga	gaacangttt	480
gcagatgang	ctactgggat	gggctcctgc	rcacnaaaga	aantatca		528

<210> 65

<211> 547

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (547)

<223> n = A,T,C or G

<400> 65

kgaatgaasa	acgaacgctg	gaagtagaaa	tagagcctgg	ggtgagagac	ggcatggagt	60
acccctttat	tggagaaggt	gagcctcacg	tggatgggga	gcctggagat	ttacggttcc	120
gaatcaaagt	tgtcaagcac	ccaatatctg	aaaggagagg	agatgatttg	tacacaaatg	180
tgacagtctc	attagttgag	tcactgggtg	gctttgagat	ggatattact	cacttggtat	240

gtcacaaggt acatatttcc cgggataaga tcaccaggcc aggagcgaag ctatggaaga 300
aaggggaagg gctccccaac tttgacaaca acaatatcaa gggctctttg ataatcactt 360
ttgatgtgga ttttccaaaa gaacagttaa cagaggaagc gagagaangt atcaaacagc 420
tactgaaaca agggtcagtg cagaaggtat acaatggact gcaaggatat tgagagtga 480
taaaattgga ctttgtttta aataaagtga ataagcgata tttattatct gcaaggtttt 540
ttttgtg 547

<210> 66

<211> 535

<212> DNA

<213> Homo sapien

<400> 66

ggggaggtct acgcttctag agcttgagcc agcggggcga ccctgcagtg gcaggactcg 60
gcaccgcgcc ctccaccgcc ggttggtggc ctgcgtgaca gtttcctccc gtcgacatcg 120
aaaggaagcc ggacgtgggc gggcagagag cttcatcgca gtaggaatgg cagcccatc 180
tatgaaggaa agacaggtct gctggggggc cgggatgag tactggaagt gtttagatga 240
gaacttagag gatgcttctc aatgcaagaa gttaagaagc tctttcgaat caagtgtgcc 300
ccaacagtgg ataaaaatatt ttgataaaaag aagagactac ttaaaattca aagaaaaatt 360
tgaagcagga caatttgagc cttcagaaac aactgcaaaa tcctaggctg ttcataaaga 420
ttgaaagtat tctttctgga cattgaaaaa gctccactga ctatggaaca gtaatagttt 480
gaatcatagt gaacatcaat acttgttccc tatatacgac acttgataat taaga 535

<210> 67

<211> 527

<212> DNA

<213> Homo sapien

<400> 67

atttctgcca cttaattcaa acagtcatat gcaggtcgct taatttattt gtgcttttgt 60
ttcatcttct acaaggccct cttagctcta aaacttgaca gtggaataag gaaatgtttt 120
tccaaatctg cattgccggt gagatcctca acatcagcat gttgagatgg acctcaaccc 180
cacctctaac cctgaaacac actactcgat attatcttag gtatgtttta gggtttagtt 240
tgtaaaataa taatttattt ttgaaggaaa tataaaatat taaagagtaa taatagctat 300
cattttttta gattcaatct aaaacaatgg actctttttt tttccatttg tgatgtagat 360
aagcaagaca attttgatca tgagtggatga aaagaggatc aaacttgact attcttgcaa 420
tggcagtcca gcaacaagcc tttcatttac attaaattat aacttttcat tcattcctaa 480
accaaactta aaattctgct ttcctttgag tagaaggtat ttaactt 527

<210> 68

<211> 431

<212> DNA

<213> Homo sapien

<400> 68

gggaaacttc atgggtttcc tcatctgtca tgtcgatgat tatatatgga tacatttaca 60
aaaataaaaa gcgggaattt tcccttcgct tgaatattat ccctgtatat tgcagtaatg 120
agagatttcc catatttcca tcagagtaat aaatatactt gctttaattc ttaagcataa 180
gtaaacatga tataaaaaata tatgctgaat tacttgtaga gaatgcattt aaagctattt 240
taaagtgtgt tttatttgta agacattact tattaagaaa ttggttatta tgcttactgt 300
tctaactctg tggtaaagggt attcttaaga atttgcagggt actacagatt ttcaaaactg 360

aatgagagaa aattgtataa ccatacctgct gwtccttttag tgcaatacaa taaaactctg 420
aaattaaaac t 431

<210> 69
<211> 399
<212> DNA
<213> Homo sapien

<400> 69
gacacggcgg acacacacaa acacagaacc acacagccag tcccaggagc ccagtaatgg 60
agagcccaa aaagaagaac cagcagctga aagtcgggat cctacacctg ggagcagac 120
agaagaagat caggatacag ctgagatccc agtgcgcgac atggaagggtg atctgcaaga 180
gctgcatcag tcaaacaccg gggataaatc tggatttggg ttccggcgctc aaggatgaaga 240
taatacctaa agaggaacac tgtaaaatgc cagaagcagg tgaagagcaa ccacaagttt 300
aatgaagac aagctgaaac aacgcaagct ggttttatat tagatatattg acttaaaacta 360
tctcaataaa gttttgcagc tttcaccaar aaaaaaaaa 399

<210> 70
<211> 479
<212> DNA
<213> Homo sapien

<400> 70
cgcgccggag ctgtgagccg gcgactcggg tccctgaggt ctggattctt tctccgctac 60
tgagacacgg cggacacaca caaacacaga accacacagc cagtcccagg agcccagtaa 120
tggagagccc caaaaaagaag aaccagcagc tgaaagtgcg gatcctacac ctgggcagca 180
gacagaagaa gatcaggata cagctgagat cccagggtgct gggaagggaa atgcgcgaca 240
tggaagggtga tctgcaagag ctgcatcagt caaacaccgg ggataaatct ggatttgggt 300
tccggcgta aggtgaagat aatacctaaa gaggaacact gtaaaatgcc agaagcaggt 360
gaagagcaac cacaagttta aatgaagaca agctgaaaca acgcaagctg gttttatatt 420
aggatatttg acttaaaacta tctcaataaa gttttgcagc tttcaccaaa aaaaaaaaa 479

<210> 71
<211> 437
<212> DNA
<213> Homo sapien

<400> 71
ctcagcggct gccaacagat catgagccat cagctcctct ggggccagct ataggacaac 60
agaactctca ccaaaggacc agacacagtg rgcaccatgg gacagtgtcg gtcagccaac 120
gcagaggatg ctcaggaatt cagtgatgtg gagagggcca ttgagaccct catcaagaac 180
tttcaccagt actccgtgga ggggtgggaag gagacgtga ccccttctga gctacgggac 240
ctggtcaccc agcagctgcc ccatactcat cccagcaact gtggcctgga agagaaaatt 300
gccaacctgg gcagctgcaa tgactctaaa ctggagttca ggagtttctg ggagctgatt 360
ggagaagcgg ccaagagtgt gaagctggag aggcctgtcc gggggcactg agaactccct 420
ctggaattct tggggggg 437

<210> 72
<211> 561
<212> DNA
<213> Homo sapien

<400> 72

ggatggtata	ctgtaaatc	agcatatgga	gataccatta	tcataacctg	ccgacttgac	60
gtacctcaga	atctcatgtt	tggcaaattg	aaatatgaaa	agcccgatgg	ctccccagta	120
tttattgcct	tcagatcctc	tacaaagaaa	agtgtgcagt	acgacgatgt	accagaatac	180
aaagacagat	tgaacctctc	agaaaactac	actttgtcta	tcagtaatgc	aaggatcagt	240
gatgaaaaga	gattttgtgtg	catgctagta	actgaggaca	acgtgtttga	ggcacctaca	300
atagtcaagg	tgttcaagca	accatctaaa	cctgaaattg	taagcaaagc	actgtttctc	360
gaaacagagc	agctaaaaaa	gttgggtgac	tgcatttcag	aagacagtta	tccagatggc	420
aatatcacat	ggtacaggaa	tggaaaagtg	ctacatcccc	ttgaaggagc	ggtggtcata	480
atttttaaaa	aggaaatgga	cccagtgact	cagctctata	ccatgacttc	caccctggag	540
tacaagacaa	ccaaggctga	c				561

<210> 73

<211> 916

<212> DNA

<213> Homo sapien

<400> 73

ggagaaaata	aggtggagtc	ctacttgttt	aaaaaatatg	tatctaagaa	tgttctaggg	60
cactctggga	acctataaaag	gcaggatatt	cgggccctcc	tcttcaggaa	tcttcctgaa	120
gacatggccc	agtcgaaggc	ccaggatggc	ttttgctgcg	gccccgtggg	gtaggaggga	180
cagagagaca	gggagagtc	gcctccacat	tcagaggcat	cacaagtaat	ggcacaattc	240
ttcggtgac	tgcagaaaaat	agtgttttgt	agttcaacaa	ctcaagacga	agcttatttc	300
tgaggataag	ctcttttaaa	gcaaagcttt	attttcatct	ctcatctttt	gtcctcctta	360
gcacaatgta	aaaaagaata	gtaatatcag	aacaggaagg	aggaatggct	tgctggggag	420
cccatccagg	acactgggag	cacatagaga	ttcacccatg	tttgttgaac	ttagagtcac	480
tctcatgctt	ttctttataa	ttcacacata	tatgcagaga	agatatgttc	ttgttaacat	540
tgtatacaac	atagccccaa	atatagtaag	atctatacta	gataatccta	gatgaaatgt	600
tagagatgct	atatgataca	actgtggcca	tgactgagga	aaggagctca	cgcccagaga	660
ctgggctgct	ctcccgagg	ccaaacccaa	gaaggtctgg	caaagtcagg	ctcagggaga	720
ctctgccttg	ctgcagacct	cggtgtggac	acacgctgca	tagagctctc	cttgaaaaca	780
gaggggtctc	aagacattct	gcctacctat	tagcttttct	ttattttttt	aacttttttg	840
ggggaaaagt	atttttgaga	agtttgtctt	gcaatgtatt	tataaatagt	aaataaagtt	900
tttaccatta	aaaaaa					916

<210> 74

<211> 547

<212> DNA

<213> Homo sapien

<400> 74

agtggcatta	acttttagaa	tttgggctgg	tgagattaat	tttttttaat	atcccagcta	60
gagatatggc	ctttaactga	cctaaagagg	tgtgttgtga	tttaattttt	tcccgttcc	120
ttttcttcag	taaaccaca	aatagtctaa	ccttaaaaa	tgagttgatg	tccttatagg	180
tcactacccc	taaataaacc	tgaagcaggt	gttttctctt	ggacatacta	aaaaatacct	240
aaaaggaagc	ttagatgggc	tgtgacacaa	aaaattcaat	tactgtcatc	taatgccagc	300
tgttaaaagt	gtggccactg	agcatttgat	tttataggaa	aaaatagtat	ttttgagaat	360
aacatagctg	tgctattgca	catctgttgg	aggacatccc	agatttgctt	atactcagtg	420
cctgtgatat	tgagtttaag	gatttgaggc	aggggtaatt	attaaacata	ttgcttctat	480
tcttggaaaa	atagaagkgt	aaaatgttaa	taatacaaat	gtcactgtga	cctcctccac	540

tgagagg

547

<210> 75

<211> 793

<212> DNA

<213> Homo sapien

<400> 75

tgaggaagtt	gcaagccaac	aaaaaagttc	aaggatctag	aagacgatta	agggaaaggtc	60
gttctcagtg	aaaatccaaa	aaccagaaaa	aatggtttat	acaaccctaa	gtcaataaacc	120
tgaccttaga	aaattgtgag	agccaagttg	acttcaggaa	ctgaaacatc	agcaciaaaga	180
agcaatcatc	aaataattct	gaacacaaat	ttaatatattt	tttttctgaa	tgagaaacat	240
gagggaaatt	gtggagttag	cctcctgtgg	agttagcctc	ctgtggtaaa	ggaattgaag	300
aaaatataac	accttacacc	ctttttcatc	ttgacattaa	aagttctggc	taactttgga	360
atccattaga	gaaaaatcct	tgtcaccaga	ttcattacaa	ttcaaatacg	agagtgtgga	420
actgttatcc	cattgaaaag	accgagcctt	gtatgtatgt	tatggataca	taaaatgcac	480
gcaagccatt	atctctccat	gggaagctaa	gttataaaaa	taggtgcttg	gtgtacaaaa	540
ctttttatat	caaaaggctt	tgcacatttc	tatatgagtg	ggtttactgg	taaattatgt	600
tattttttac	aactaatttt	gtactctcag	aatgtttgtc	atatgcttct	tgcaatgcat	660
attttttaat	ctcaaacgtt	tcaataaaac	catttttctc	atataaagag	aattacttca	720
rattgagtaa	ttcagaaaaa	ctcaagattt	aagttaaaaa	gtggtttgga	cttggaaca	780
ggactttata	cct					793

<210> 76

<211> 461

<212> DNA

<213> Homo sapien

<400> 76

accttgact	attccccctca	gtccatctat	cgaggtcttt	gcaggaagca	tactgggaat	60
tgaaacgaga	gcctaaatga	catctaagaa	aggcagtggt	caataccagg	tattagtgga	120
ggatgggatt	ctaaggacat	cagtgggagg	cagggagcca	ccttcagacc	tcagcatgga	180
agcttccaag	atccagagga	agaggcaaca	gcactgagag	tcataggtag	aagaatcatc	240
acagccctgc	taaccaggca	gctgatgccc	ctctcccttg	gctccctgtg	tccaaatcct	300
acaggggcat	ctgttggtcg	aactcaacct	gaagccaaag	agaagatgag	tggagagagg	360
caacatttat	agagctcagg	tttctagggc	tggagagggg	tctggagggg	cacacaggag	420
acacctggca	taaccaaaaa	atgattaaaa	aaaaaaaaaa	a		461

<210> 77

<211> 642 <212> DNA

<213> Homo sapien

<400> 77

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gctgtgagac	tacctattgt	agatatggca	ccctatgaca	ttggtggtcc	tgatcaagaa	120
tttgggtgtg	acgttggccc	tgtttgcttt	ttataaaacca	aactctatct	gaaatcccaa	180
caaaaaaaaa	ttaactccat	atgtgttcc	cttgttctaa	tcttgtcaac	cagtgcaggt	240
gaccgacaaa	attccagtta	tttatttcca	aatggtttgg	aaacagtata	atttgacaaa	300
gaaaaatgat	acttctcttt	ttttgctgtt	ccaccaaata	caattcaaat	gctttttgtt	360
ttattttttt	accaattcca	atttcaaaat	gtctcaatgg	tgctataata	aataaacttc	420
aacactcttt	atgataacaa	aaaaaarawa	wattctttga	atcctagccc	atctgcagag	480

caatgactgt	gctcaccagt	aaaagataac	ctttctttct	gaaatagtca	aatacgaaat	540
tagaaaagcc	ctccctatct	taactacctc	aactggtcag	aaacacagat	tgtattctat	600
gagtcacaga	agatgaaaaa	aattttatac	gttgataaaa	ct		642

<210> 78

<211> 519

<212> DNA

<213> Homo sapien

<400> 78

gcagaagaag	aagcggacct	tccgcaagtt	cacctaccgc	ggcgtggacc	tcgaccagct	60
gctggacatg	tccctacgagc	agctgatgca	gctgtacagt	gcgcgccagc	ggcggcggct	120
gaaccggggc	ctgcggcgga	agcagcactc	cctgctgaag	cgcctgcgca	aggccaagaa	180
ggaggcggcg	cccatggaga	agccggaagt	ggatgaagacg	cacctgcggg	acatgatcat	240
cctaccggag	atggtgggca	gcatgggtggg	cgtctacaac	ggcaagacct	tcaaccaggt	300
ggagatcaag	cccagagatga	tccggccacta	cctggggcgag	ttctccatca	cctacaagcc	360
cgtaaagcat	ggccggggccg	gcatcgggggc	caccactacc	tcccgcttca	tccctctcaa	420
gtaatggctc	agctaataaa	aggcgacat	gactccaaaa	aaaaaaaaaa	aagggcggcc	480
gccaccggcg	gggagctcca	cttttggtcc	ctttaatga			519

<210> 79

<211> 526

<212> DNA

<213> Homo sapien

<400> 79

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ggtcacagcc	tgatctctta	tgtgttcata	gccattcgct	ctcccatcag	aactgtttgt	120
cctgaatgtg	ttcctctagt	tctagaaaat	gaccactaat	ttaaaaaact	cggttgtgag	180
gtttgcccg	aggcacttgt	tccagaatct	cccctcctgc	ttcagccatg	tcctgtcac	240
ttggcattct	aagctaaagc	tttagcttcc	caattcgtga	tgtgctaggc	caagattcgg	300
gagctgttgc	cagcctcgtc	aaatatggaa	gagaaacaac	ctgcgggtcaa	aaggagtgga	360
tttgtttaagt	ggtgcgcgtc	tatctcataa	ctagatgtac	caaccaggga	aggccaagg	420
atggaaaggg	gtaacttttg	tgtttccaaa	gtagctaagc	agaagtgggg	gagcagttta	480
gccagatgat	ctttgattag	gcaaacattg	agttttaaag	aggctg		526

<210> 80

<211> 281

<212> DNA

<213> Homo sapien

<400> 80

gttatattag	tgggtagtgt	aacatcttat	ccagggtggg	gtgaggggag	atggccacag	60
tagcaagtgg	tgacactaaa	taccatcttg	aaggctgatg	tgtatataca	tcattactgt	120
ccgtagcaat	gaaggatata	gtactgtgtt	gtgggtgagt	gttgctattg	cccagcatta	180
atatttgggt	gtgtatgttt	gaggctatga	aacacgcagg	agtgtttttg	tgctattaat	240
tttaagagaa	agcagctttt	tcttaaaatt	cactgttgag	a		281

<210> 81

<211> 405

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(405)

<223> n = A,T,C or G

<400> 81

gtgggtggga	gcgcggtgctg	ttgggagttg	cttggagggt	ggcggcgcg	ggctgaaggc	60
tagcaaaccg	agcgatcatg	tcgcacaaac	aaatttacta	ttcggacaaa	tacgacsacg	120
aggagtttga	statcgacat	gtcatgctgc	ccaaggacat	akccaasctg	gtccctaaaa	180
cccattctgat	gtctgaatct	gaatggagga	atcttggcng	ttcagmagan	tcagggatgg	240
gtccattata	tgatccatga	nccagaacct	cdcatcttgc	tgttccggcg	scccacttac	300
cccaanaaac	caamgaaatg	aaccttgggt	actacttttc	aatcctcaaa	kcttttcaca	360
vhtgaccttc	cttcctaaca	ttctttmtga	taaacattta	ttaag		405

<210> 82

<211> 547

<212> DNA

<213> Homo sapien

<400> 82

tagtttttaa	gaagaaat	tttttggcct	atgaaattgt	taaacctgga	acatgacatt	60
gttaatcata	taataatgat	tcttaaatgc	tgtatggttt	attattttaa	tgggtaaagc	120
catttacata	atatagaaag	atatgcatat	atctagaagg	tatgtggcat	ttatttggat	180
aaaattctca	attcagagaa	atcatctgat	gtttctatag	tcactttgcc	agctcaaaag	240
aaaacaatac	cctatgtagt	tgtggaagtt	tatgctaata	ttgtgtaact	gatattaaac	300
ctaaatgttc	tgcctaccct	gttgggtata	agatattttg	agcagactgt	aaacaagaaa	360
aaaaaaatca	tgcattctta	gcaaaattgc	ctagtatgtt	aatttgctca	aaatacaatg	420
tttgatttta	tgcactttgt	cgctattaac	atcctttttt	tcatgtagat	ttcaataatt	480
gagtaatttt	agaagcatta	tttttaggaat	atatagtkgt	cacagtaaat	atcttgtttt	540
ttctatg						547

<210> 83

<211> 529

<212> DNA

<213> Homo sapien

<400> 83

ctattctaag	agatgctctt	agtgatcttg	cattacactt	tctgaataaa	atgaagatca	60
tgggtattaa	ggatattgaa	agagaagaca	ttgaattcat	ttgtaagaca	attggaacca	120
agccagttgc	tcatattgac	caatttactg	ctgacatgct	gggttctgct	gagttagctg	180
aggaggtcaa	tttaaatggt	tctggcaaac	tgctcaagat	tacaggctgt	gccagccctg	240
gaaaaacagt	tacaattggt	gttcgtgggt	ctaacaaact	ggtgattgaa	gaagctgagc	300
gctccattca	tgatgcccta	tgtgttatcc	gttgtttagt	gaagaagagg	gctcttattg	360
caggaggtgg	tgctccagaa	atagagttgg	ccctacgatt	aactgaatat	tcacgaacac	420
tgagtgggtat	ggaatcctac	tgcgttcgtg	cttttgcaga	tgctatggag	gtcattccat	480
ctacactagc	tgaaaatgcc	cggcctgaat	cccattttcta	cagtaacag		529

<210> 84

<211> 527

<212> DNA

<213> Homo sapien

<400> 84

cccatcacca	gaatcccttc	atgggagggg	tggatgcctg	ttgaaactca	ctgacctatt	60
ggactgagcg	tggggtggta	tcttcatcag	agctattgta	agtcacccaa	aaggcttctg	120
acgaaagaac	aattttttaa	aagtcctctt	tttcaatcaa	gccaatgtcc	tattttattt	180
ctaaaagtgt	tgggactcgt	gctgttatca	agtacaatga	aaatggcttt	ataaatagct	240
gttttgacat	tgtgatagaa	ggcttgaata	cggaggaaaag	atgtcgctgg	agctagtcct	300
gagttccgac	tgtccctgtg	gtgggaatcc	agtctgggaa	agcaggactg	ttttagcaaa	360
cgtgtactcg	ttctataaaa	atggaatctg	ttctgcaggt	taccgtccct	ccccgcccc	420
gcatcccctc	tgtcctgtct	ctctgctgct	gggaccagg	gctttttcag	ctgcagaacc	480
cactggactt	ccaggaatca	aggaaaaagt	ggaaatgtcc	aactgtg		527

<210> 85

<211> 401

<212> DNA

<213> Homo sapien

<400> 85

cagtgtggtg	gaattcccaa	gatagaaatg	aaaaactctt	ttatagagtg	ctgacatctg	60
acattgagaa	attcatgcct	attgtttata	ctccactgt	gggtctggct	tgccaacaat	120
atagtttggt	gtttcggaa	ccaagagggt	tctttattac	tatccacgat	cgagggcata	180
ttgcttcagt	tctcaatgca	tggccagaag	atgtcatcaa	ggccattgtg	gtgactgatg	240
gagagcgtat	tcttggcttg	ggagaccttg	gctgtaatgg	aatgggcatc	cctgtgggta	300
aattggctct	atatacagct	tgcggaggga	tgaatcctca	agaatgtctg	cctgtcattc	360
tggatgtggg	aaccgaaaat	gaggagttac	ttaaagatcc	a		401

<210> 86

<211> 547

<212> DNA

<213> Homo sapien

<400> 86

gaagcctctt	gtgtttgtgt	gcagagaagt	atatgatcca	ccatgcta	gacacttgcc	60
tttttttcca	ccattaaggc	tttaagaaca	tgtggaataa	gttttttagc	tgctaatagac	120
aaaacaaatc	ctgtaactac	ccagccagca	agtatatagc	acagaacact	gtgttacttt	180
acaagggctt	atgtgactgg	aataagggtg	tcccacttga	ctgttccaaa	gagcagcttc	240
tcagatcttc	agtgttcaact	ggtaaatttc	taacagtgtg	tttgtgtaaa	gtttgtcatt	300
tcatactcca	tacactacag	ttgctgtcac	tgatccctgt	tttgtctggc	tttaagctac	360
ttgggtcaaaa	atcctgcttc	cttaaaacat	agagaattaa	tgagcatctc	aagctttttc	420
ttttcctttt	taatgatgcc	tgcactatca	agagtattct	agtgttctct	ctttgtttgg	480
catataatca	tgcaccaaac	tttttatttc	tttaagggtg	gagtatattt	ttatttccta	540
aatgcca						547

<210> 87

<211> 530

<212> DNA

<213> Homo sapien

<400> 87

atggattcga	aataccagkg	tgtgaagctg	aatgatggtc	acttcatgcc	tgtcctggga	60
tttggcacct	atgcgcctgc	agaggttcct	aaaagtaaag	ctctagaggc	cgtcaaattg	120
gcaatagaag	ccgggttcca	ccatattgat	tctgcacatg	tttacaataa	tgaggagcag	180
gttggactgg	ccatccgaag	caagattgca	gatggcagtg	tgaagagaga	agacatattc	240
tacacttcaa	agcttttgag	caattcccat	cgaccagagt	tgggccgacc	agccttgga	300
aggtcactga	aaaatcttca	attggactat	gttgacctct	atcttattca	ttttccagt	360
tctgtaaagc	caggtgagga	agtgatccca	aaagatgaaa	atggaaaaat	actatttgac	420
acagtggatc	tctgtgccac	rtgggaggcc	atggagaagt	gtaaagatgc	aggattggcc	480
aagtccatcg	gggtgtccaa	cttcaaccac	aggctgctgg	agatgatcct		530

<210> 88

<211> 529

<212> DNA

<213> Homo sapien

<400> 88

acctgagcta	agaaggataa	ttgtcttttg	gtaactaggt	ctacagggtt	acatttttct	60
gtgttacact	caaggataaa	ggcaaaatca	atcttcta	ttgttttaga	gccagagttt	120
atcttttcta	taagtttaca	gcctttttct	tatatataca	gttattgcca	cctttgtgaa	180
catggcaagg	gactttttta	caatttttat	tttattttct	agtaccagcc	taggaattcg	240
gttagtactc	atctgtattc	actgtcactt	tttctcatgt	tctaattata	aatgaccaa	300
atcaagattg	ctcaaaaagg	taaatgatag	ccacagtatt	gctccctaaa	atatgcataa	360
agtagaaatt	cactgccttc	ccctcctgtc	catgaccttg	ggcacaggga	agttctggtg	420
tcatagatat	cccgttttgt	gaggtagagc	tgtgcattaa	acttgacat	gactggaacg	480
aagtatgagt	gcaactcaaa	tgtgttgaag	atactgcagt	cattttttgt		529

<210> 89

<211> 547

<212> DNA

<213> Homo sapien

<400> 89

gtttatatat	atagcgaata	aatctagttg	tataaatttt	taaatgccgt	cagtagaaa	60
cacacaaggt	tatgattttt	ttaattactg	gcttctgatt	tctttcactt	ctgatccttt	120
tcctttttct	cagatgtagc	tgagtcttga	tcatttttaag	acaacgatgg	gtagaatttt	180
gagattaatg	ttaattttcc	ctttttgtta	atttcagtc	cctctcacta	tgcttttgtc	240
cagaaggatc	aagaatttcta	ccatcccttg	ggcttttgtg	tataaacaat	gttaaataaa	300
ggtagactca	gtctttaaga	tattagacag	tttttttagt	ccatgggatt	gtaaatataa	360
acattaactt	tcctataaga	atattttggc	tttgtaattc	atagcctcaa	attggtattt	420
attatggatt	cactagacaa	acagctgttt	ccttattgtc	ttttttcttt	agtgtttctg	480
atttgctatc	agtagctgtt	tttaaagcca	tccaaggaaa	ataattattt	acagtttttg	540
aagtcac						547

<210> 90

<211> 528

<212> DNA

<213> Homo sapien

<400> 90

gagcagcaga	agctgtacag	caagatgata	gtgggggaacc	acaaggacag	gagccgctcc	60
tgagcctgcc	tccagctggc	tggggccacc	gtgcgggggtg	ccaacgggct	cagagctgga	120

gttgccgccc	ccgccccccac	tgctgtgtcc	tttccagact	ccagggctcc	ccgggctgct	180
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gcctaccctt	ggtggtctaa	acggatgctg	ctgggtgttg	cgaccagga	cgagatgcct	300
tgtttctttt	acaataagtt	gttggaggaa	tgccattaaa	gtgaactccc	cacctttgca	360
cgctgtgcgg	gctgagtggg	tggggagatg	tggccatggg	cttgtgctag	agatggcggt	420
acaagagtct	gttatgcaag	cccgtgtgcc	agggatgtgc	tgggggcggc	cacccgctct	480
ccaggaaagg	cacagctgag	gcactgtggc	tggcttcggc	ctcaacat		528

<210> 91

<211> 547

<212> DNA

<213> Homo sapien

<400> 91

atataccatt	taatacattt	acactttctt	atttaagaag	atattgaatg	caaaataatt	60
gacatataga	actttacaaa	catatgtcca	aggactctaa	attgagactc	tccacatgt	120
acaatctcat	cacctgaag	cctataatga	agaaaaagat	ctagaaactg	agttgtggag	180
ctgactctaa	tcaaagtga	tgattggaat	taraccmttt	ggscyttgra	ccttymtwrg	240
raaaaawgrmc	cmaccttttyt	taacmtgrac	cwccytmatc	tctagaagct	gggatggact	300
tactatyctk	gttwatattt	taaataackga	aaggtgctat	gcttctgtta	ttattccaag	360
actggagata	ggcaggggcta	aaaaggtatt	attatttttc	ctttaatgat	ggtgctaaaa	420
ttcttcctat	aaaattccct	aaaaataaag	atggtttaat	cactaccatt	gtgaaaacat	480
aactgttaga	cttcccgttt	ctgaaagaaa	gagcatcggt	ccaatgcttg	ttcactgttc	540
ctctgtc						547

<210> 92

<211> 527

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(527)

<223> n = A,T,C or G

<400> 92

gctggctagt	aggggaacat	gtagtagcca	agcccatgca	ttgcagtgca	cagagcaaca	60
ttggggtaac	aggatgggta	cctgtcacgg	cctgtgcaaa	cataacatgt	gtcaccacac	120
tgaaggtagt	gtggaacaag	tggcctcacc	aaggctcgac	cccaatggac	tttttgctc	180
ttgggagctt	atgggtctat	gaggacacag	tagcctttcc	tatcagcaaa	ctggagtggg	240
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ttctaccctt	ttggcaatga	ctatccctgg	agnatgtgt	caaaactgta	aagcacaatt	420
tactgtctct	tgcggagcac	accgctcatg	ctctgaatta	cacctgaktg	tccctcctcc	480
wgktawtgaa	tgaggttgat	cnvatcagaa	adgtggkggt	ggcmata		527

<210> 93

<211> 531

<212> DNA

<213> Homo sapien

<400> 93

ggatttcata	cagccttcct	aaaggcaatg	ctttccacag	gattttaagat	accccagaaa	60
ggcatcctga	taggcatcca	gcaatcattc	cggccaagat	tccttggtgt	ggctgaacaa	120
ttacacaatg	aagggtttcaa	gctgtttgcc	acggaagcca	catcagactg	gctcaacgcc	180
aacaatgtcc	ctgccacccc	agtggcatgg	ccgtctcaag	aaggacagaa	tcccagcctc	240
tcttccatca	gaaaattgat	tagagatggc	agcattgacc	tagtgattaa	ccttcccaac	300
aacaacacta	aatttgtcca	tgataattat	gtgattcgga	ggacagctgt	tgatagtggg	360
atccctctcc	tcactaattt	tcaggtgacc	aaactttttg	ctgaagctgt	gcagaaatct	420
cgcaagggtg	actccaagag	tcttttccac	tacaggcagt	acagtgtctg	aaaagcagca	480
tagagatgca	gacaccccag	ccccattatt	aatcaacct	gagccacatg	t	531

<210> 94

<211> 547

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(547)

<223> n = A,T,C or G

<400> 94

gttaaacaatg	gtctgcgtgc	cttaagagag	acgcttcctg	cagaacagga	cctgactaca	60
aagaatgttt	ccattggaat	tggttgtaaa	gacttgaggt	ttacaatcta	tgatgatgat	120
gatgtgtctc	cattcctgga	aggtcttgaa	gaaagaccac	agagaaaggc	acagcctgct	180
caacctgctg	atgaacctgc	agaaaaggct	gatgaaccaa	tggaacatta	agtgataagc	240
cagtctatat	atgtattatc	aaatatgtaa	gaatacaggc	accacatact	gatgacaata	300
atctatactt	tgaacaaaaa	gttgacagag	gggtggaatgc	tatgttttag	gaatcagtc	360
agatgtgagt	tttttccaag	caacctcact	gaaacctata	taatggaata	catttttctt	420
tgaagggtgc	tgtataatca	ttttctagaa	agtatgggta	tctataactaa	tgtttttata	480
tgaagaacat	aggtgtcttt	gtgggttttaa	agacaactgt	gaaataaaat	tgtttcaccg	540
cctggtn						547

<210> 95

<211> 1265

<212> DNA

<213> Homo sapien

<400> 95

gtggtcaagc	agtgattttt	ctgggactgc	agaagttcct	gctgtgcccc	acctttatta	60
ctaactggga	aagacccagg	gagactggga	tgggtcctatg	attctacata	cagaactcat	120
ccaagaaagg	aggaaaagct	gattttttgtg	aacgtcgcta	cttgtgcctg	aactaactct	180
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tatacaataa	tgaggagcag	gttggactgg	ccatccgaag	caagattgca	gatggcagtg	360
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tggtccgacc	agccttgga	aggtcactga	aaaatcttca	attggattat	gttgacctct	480
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atggaaaaat	actattttgac	acagtggatc	tctgtgccac	gtgggaggcc	gtggagaagt	600
gtaaagatgc	aggattggcc	aagtccatcg	gggtgtccaa	cttcaaccgc	aggcagctgg	660
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ttgcctatag	tgtcttggga	tcccaccgag	aagaaccatg	ggtggacccg	aactccccgg	840
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agcagcgcac	cagacagaac	gtgcagggtt	ttgagttcca	gttgactgca	gaggacatga	1020
aagccataga	tggcctaacc	agaaatgtgc	gatatttgac	ccttgatatt	tttgcctggc	1080
cccctaatta	tccattttct	gatgaatatt	aacatggagg	gcattgcatg	aggtctgcca	1140
gaaggccctg	cgtgtggatg	gtgacacaga	ggatggctct	atgctggtga	ctggacacat	1200
cgcctctggt	taaatctctc	ctgcttggtg	atttcagcaa	gctacagcaa	agcccattgg	1260
ccaga						1265

<210> 96

<211> 568

<212> DNA

<213> Homo sapien

<400> 96

ccagtgtggt	ggaattcggc	ttaattacaa	aatttgatca	cgatcatatt	gtagtctctc	60
aaagtgtctt	agaaattgtc	agtgggtttac	atgaagtggc	catgggtgtc	tggagcacc	120
tgaactgtga	tcaaagttgt	acatatttcc	aaacattttt	aaaatgaaaa	ggcactctcg	180
tgttctcctc	actctgtgca	ctttgctggt	gggtgtgacaa	ggcattttaa	gatgtttctg	240
gcattttctt	tttatttgta	aggtgggtggt	aactatgggt	attggctaga	aatcctgagt	300
tttcaactgt	atatatctat	agtttgtaaa	aagaacaaaa	caaccgagac	aaacccttga	360
tgtccttgc	tggcggttga	ggctgtgggg	aagatgcctt	ttgggagagg	ctgtagctca	420
gggctgtcac	tgtgaggctg	gacctgttga	ctctgcaggg	ggcatccatt	tagcttcagg	480
ttgtcttgtt	tctgtatata	gtgacatagc	attctgctgc	catcttagct	gtggacaaa	540
gggggtcagc	tggcatgaga	atattttt				568

<210> 97

<211> 546

<212> DNA

<213> Homo sapien

<400> 97

ttgtaccgta	tctgtaggca	tctgtaaat	aattccaagg	ggaaaactaa	acgaggacgt	60
gggttgtatc	ctgccagggt	gagtggggct	cacacgctag	ggtgagatgt	cagaaagcgc	120
ttgtatttta	aacaacaaaa	aagaattgta	aggggtggctt	gctgccaggc	ttgcactgcc	180
gttcctgggg	gtgtgcatct	tggggaaagg	tgggtggcggg	gcgtccacta	ggtttctctg	240
cccctgtgc	tcttccgta	agaaaatgaa	atattctatg	cctaatactc	acacgcaaca	300
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ttccacctga	agacttgtgt	taaagttcta	cagcgcgcac	tgttaactga	acgtcttttt	480
cttcagccta	tacgcggatc	cttgttttga	gctctcagaa	tcactcagac	aacattttgt	540
aactgc						546

<210> 98

<211> 547

<212> DNA

<213> Homo sapien

<400> 98

tactgggtgc	caagctatgt	gccaggcact	ttacatgtat	tgatttaaca	cttaacagcc	60
actctatatt	attccctttt	tacagatgag	gcaattttaag	ctcaaagcat	ttaagtagac	120
aaccaaccta	gaatcacata	gcaaatgaca	gaagccagag	gcctcccaag	tctctctaac	180
tccaaaccct	atgcttactc	tactatatca	cactaccttg	caataggaca	aagggaatat	240
gtggtaaact	atgttcccag	catctaaaag	ccaggagtgg	ttttcathtt	tctttaagaa	300
gatgatagt	tgatttgaaa	catatctgaa	tttcagaaga	ggggactttt	aaaaattgcc	360
actcataagg	aaagaaagaa	ctttttcaca	tatttttgaa	agaaacgatg	gtgagaagat	420
attcttgata	atagagatat	gctaacattt	gctttgggtg	ttttgtaggt	tagatttttt	480
tggtgtgtac	tttataggct	tgcatattgc	ttactttaaa	cagctgaagt	tctaagtaag	540
agtgttc						547

<210> 99

<211> 122

<212> DNA

<213> Homo sapien

<400> 99

cagcctttct	gtcatcatct	ccacagccca	cccatcccct	gagcacacta	accacctcat	60
gcaggcccca	cctgcccaata	gtaataaagc	aatgtcactt	ttttaaaaca	aaaaaaaaaa	120
aa						122

<210> 100

<211> 449

<212> DNA

<213> Homo sapien

<400> 100

ctgacggctt	tgctgtccca	gagccgccta	aacgcaagaa	aagtcgatgg	gacagttaga	60
ggggatgtgc	taaagcgtga	aatcagttgt	ccttaatttt	tagaaagatt	ttggtaacta	120
ggtgtctcag	ggctgggttg	gggtccaaag	tgtaaggacc	ccctgccctt	agtggagagc	180
tgagagcttg	agacattacc	ccttcatcag	aaggaatttt	cggatgtttt	cttgggaagc	240
tgttttggtc	cttggaagca	gtgagagctg	ggaagcttct	tttggctcta	ggtgagttgt	300
catgcgggta	agttgaggtt	atcttgggat	aaagggctct	ctagggcaca	aaactcactc	360
taggtttata	ttgtatgtag	cttatatttt	ttactaaggt	gtcaccttat	aagcatctat	420
aaattgagtt	ctttttctta	gttgatgg				449

<210> 101

<211> 131

<212> DNA

<213> Homo sapien

<400> 101

ccatgtttct	tcttgactac	gcatatgtga	gatttgcccc	tccgccccgc	tcgtgatagc	60
catccagatc	ttttacctgg	ccctgtcttg	gagaatctgt	tttcaatctc	cactgattgc	120
ccccttgctg	g					131

<210> 102

<211> 199

<212> DNA

<213> Homo sapien

<400> 102
 ctgctgcgcc tgatgctggg acagcccccgc tcccagatgt aaagaacgcg acttccacaa 60
 acctggattt tttatgtaca accctgaccg tgaccgtttg ctatattcct ttttctatga 120
 aataatgtga atgataataa aacagctttg acttgaaaaa aaaaaaaaaa aaaaaaaaaa 180
 aaaaaaaaaa aaaaaaaaaa 199

<210> 103
 <211> 321
 <212> DNA
 <213> Homo sapien

<400> 103
 ttttttaggt ttttaaactt tttatttgca tattaaaaaa attgtgcatt ccaataatta 60
 aaatcatttg aacaaaaaaa aatggcactc tgattaaact gcattacagc ctgcaggaca 120
 ccttggggcca gcttgggtttt actctagatt tcaactgtcgt cccaccccca cttctttcac 180
 cccacttttt ccttcaccaa catgcaaagt ctttccttcc ctgccacca gataatatag 240
 acagatggga aaggcaggcg cggccttcgt tgtcagtagt tctttgatgt gaaaggggca 300
 gcacagtcac ttaaacttga t 321

<210> 104
 <211> 309
 <212> DNA
 <213> Homo sapien

<400> 104
 tttttttttt tttttatttt tttttttgca tcaaaaaact ttatttccat ttggcccaag 60
 gcttggttagg atagttaaaa aagctgccta ttggctggag ggagaggcct aggcataaac 120
 cctattactt tgcaaggggc ccttcaaaaag tctctgggct tctatttcaa ccgcgatgat 180
 gtggctctgg aaggcgtgag ccactttttc cggggaactgg ccaaggaaaa gcccgagggc 240
 tacaaccgtt tctgaaaat gcaaaaccag cggggcgggc gcgctctttt ccaggacatc 300
 aaaaagcca 309

<210> 105
 <211> 591
 <212> DNA
 <213> Homo sapien

<400> 105
 cttattttctg catgggtcgg agagtgggcg ggactgcttt actgagttat agtgaatgta 60
 gttttaacct aagcgctca catgactaac tcctcatcca tcaagaatga gctcagctct 120
 cacttcccca ctctcacc cctgtaaaag taacctttct ccaaggttat gcttcaacag 180
 gaatagctaa catttattaa attgtggcac gtaagtatct tggatatatt ggctcattga 240
 atctcacac ctactatttt acagagatgc cagtggggct tgagattgaa tcaactgccc 300
 aggctccac tgctggtaaa cagtagaggg ggctcctgac ccatcagctt ggcttgacaa 360
 cccattccct caactgcgga tcccggaatt ccttatcacc ctgttgattt ctccataggc 420
 tgtggtaaca tttgttgcac gaatggaccg ttgaaatagg gcctggcagg gagaaattca 480
 ggaaatgaat gaatggttct tcctggcag cctttgatga cttacaagcc ccttcaaggg 540
 ggaaagccat ttttctccct gggactcctt gaaagcccg gagccctgcc t 591

<210> 106
 <211> 450

<212> DNA

<213> Homo sapien

<400> 106

ctgccactcc	tgcctctgct	accccgaaac	cggagagggga	gctcaataat	aacacaggtc	60
ccactaaact	aattaaggtg	ttggcataac	ctgtcattga	attcaagtgt	ccaacaactg	120
tttgcttaaa	atatcattag	acctaataatt	tttttcaaag	gcacaaaagt	taaacatggg	180
gggggcgggt	gttgagaggg	gtctgggata	cccttaaacc	caaaaaagt	atttgttccc	240
ccttgcccag	aagggtgact	gttccactgg	gcctgtcacc	acaggacatt	ttccatgaca	300
agcactcacc	ttcttgggga	aggggcatca	ggttggcaca	ggaaaggccc	aagtgagggg	360
ccactctgta	cattaatact	ttggtgatta	atgtttgggg	agaggcagga	ttctcaccca	420
cctttttgac	ttcaaact	ctcactcaag				450

<210> 107

<211> 116

<212> DNA

<213> Homo sapien

<400> 107

tgcacgaaag	ttactgtcac	tcagttgtaa	atccatcagc	ttttcacctg	ttaaaaattt	60
tgcaaaatat	acatgttctc	ctcctgtttt	caattcttcc	atcttttttc	ttgagg	116

<210> 108

<211> 291

<212> DNA

<213> Homo sapien

<400> 108

ctgctcgaag	ttgtcaaaac	ccacgtgcag	ggcaatggag	agtcgatgg	ccgaccacag	60
cgagtagcgt	cctcccaccc	aatcccagaa	ctcgaacatg	ttttgaggg	caattccaaa	120
ctccttcact	ttggttgtgt	tagtagacag	ggcaacaaag	tgcttcgcca	ctgcagtagg	180
atccttggcc	gcctggagaa	accactcctt	cgcctctctt	gcattcgtga	tgggtctcctg	240
ggtagtaaag	gtcttggagg	caatgatgaa	cagggaggag	tcgggggttca	g	291

<210> 109

<211> 662

<212> DNA

<213> Homo sapien

<400> 109

gctgtttcca	cagtacgcct	gcctcacacc	ttgcgatgcg	ccaacatcac	catcattgag	60
caccagaagt	gtgagaacgc	ctaccccggc	aacatcacag	acaccatgg	gtgtgccagc	120
gtgcaggaag	ggggcaagga	ctcctgccag	ggtgactccg	ggggccctct	ggtctgtaac	180
cagtctcttc	aaggcattat	ctcctggggc	caggatccgt	gtgcgatcac	ccgaaagcct	240
ggtgtctaca	cgaaagtctg	caaatatgtg	gactggatcc	aggagacgat	gaagaacaat	300
tagactggac	ccaccaccca	cagcccatca	ccctccattt	ccacttgggtg	tttgggtcct	360
gttactctg	ttaataagaa	accctaagcc	aagaccctct	acgaacattc	tttgggcctc	420
ctggactaca	ggagatgctg	tacttaata	atcaacctgg	ggttcgaaat	cagtgaagacc	480
tggattcaaa	ttctgccttg	aaatattgtg	actctgggaa	tgacaacacc	tggtttgttc	540
tctgttgat	ccccagcccc	aaaagacagc	tcttggaact	tgccccgggg	cggccccgtc	600
ggaaaggggg	cgaaatttct	tcaagaatat	ttccatttcc	acaaacttgg	ggccgggggg	660

cc

662

<210> 110
 <211> 323
 <212> DNA
 <213> Homo sapien

<400> 110
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 cgccaataca agcaggaaat ctgcagctcc tctgctatgt gcctcagaac actttcaatt 120
 tttctggtca atgctctgat taggtatcat acataaaagc cagcatatta gtttaaattct 180
 ctaacaaaaa actatatattt ccaaagtcac tatcatttgg gccaatataag tgatcttttc 240
 gtgctttgtt gagcttctac tttagggcat ctcttctttc ttcccattca tgaagttcgg 300
 catttccatg tgcaaattta cag 323

<210> 111
 <211> 336
 <212> DNA
 <213> Homo sapien

<400> 111
 tccagtgcgc tccagcctta tctaggaaaag gaggagtggg tgtagccgtg cagcaagatt 60
 ggggcctccc ccatcccagc ttctccacca tcccagcaag tcaggatata agacagtcct 120
 cccctgacct tcccccttgt agatatcaat tcctaaacag agccaaatac tctatatcta 180
 tagtcacagc cctgtacagc atttttcata agttatatag taaatgggtc gcatgatttg 240
 tgcttctagt gctctcattt ggaaatgagg caggcttctt ctatgaaatg taaagaaaga 300
 aaccactttg tatattttgt aataccacct ctgtgg 336

<210> 112
 <211> 218
 <212> DNA
 <213> Homo sapien

<400> 112
 tttttttttt tttttttttt tccagtcagg agtattttta atcactgtct acagagacac 60
 ctacatacac acacgggttg ggaatgaacc caaagttttt aggtgaagtc tctcagggcc 120
 caccctgtgc cacagacctt cctcggttgc agagattctg ggcaaagcat ccgtgctctc 180
 atgagattat cctggggaga tttagaagaa ttttgtgg 218

<210> 113
 <211> 533
 <212> DNA
 <213> Homo sapien

<400> 113
 ctgcaccgac agttgcgatg aaagttctaa tctcttccct cctcctgttg ctgccactaa 60
 tgctgatgtc catggtctct agcagcctga atccaggggt cgccagaggc cacagggacc 120
 gaggccaggc ttctaggaga tggctccaga aaggcgccca agaattgtgag tgcaaagatt 180
 ggttctctgag agccccgaga agaaaattca tgacagtgtc tgggctgcc aagaagcagt 240
 gccctgtga tcatttcaag ggcaatgtga agaaaacaag acaccaagc caccacagaa 300
 agccaaacaa gcatcccaga gcctgccagc aatttctcaa acaatgtcag ctaagaagct 360

ttgctctgcc	tttgtaggag	ctctgagcgc	ccactcttcc	aattaaacat	tctcagccaa	420
gaagacagtg	agcacaccta	ccagacactc	ttcttctccc	acctcactct	cccactgtac	480
ccacccttaa	atcattccag	tgctctcaaa	aagcatgttt	ttcaagatct	aaa	533

<210> 114
 <211> 261
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(261)
 <223> n = A,T,C or G

<400> 114						
ccatatctgc	tgggcgctac	ttctttcttg	gattgatcct	gantgatgca	ttggcgatgc	60
ctttggagaa	ggacatgtga	tgtgatggtc	ttcacgttcc	acatgtactc	gggcaaatag	120
ggggacaaac	tgaagttaaa	caggtcgaaa	ctagaggagc	tgctgaccct	ggagctgacc	180
actttcttgg	ggaaaaggac	acatgaaggt	gctttgcaaa	agctgatgag	caatctggac	240
accaacatag	gacaacaacg	t				261

<210> 115
 <211> 267
 <212> DNA
 <213> Homo sapien

<400> 115						
cctctctgt	gggttccaga	ccctgttcca	gcaacaattg	ctggggacacc	tggggccgact	60
gctccacctc	gccaggccct	ggccctctcc	atctcagccc	tgacagccac	ccagtgataa	120
acacagcagg	cttcctaagc	aatgtgacgc	accagagggg	tgggtggtaca	cgttccctt	180
gaagtcatct	gaaaattaga	gaacagattt	gcctcatagc	tgaagagaga	ccctattcca	240
agcatgaatg	gccttgacaa	tgttcct				267

<210> 116
 <211> 239
 <212> DNA
 <213> Homo sapien

<400> 116						
ctgatgacct	gggtcttagt	gaaaatgcag	ggtcagattc	agtgggtctg	gggtctgaat	60
ctctaaggcg	ctgccaaagt	atgctgatgc	tcctggcttg	tggaccaccc	tgtgtatagc	120
aaagctctag	actaggaggt	ctcaaccttg	gctgcacaga	attatctggg	gagtttttaa	180
atttcccagt	gccaggctg	cattcatatc	atagtagaga	cagggttttg	ccatgctgg	239

<210> 117
 <211> 168
 <212> DNA
 <213> Homo sapien

<400> 117						
aaaaaacttt	tatattgctg	catcttccac	agttcttttg	gtagtctctg	aacttaaaat	60

ttgtaggagt	tgtagactac	ctaaatTTTT	aagttatgga	tttgttcata	ggttgtaggg	120
gtaggtaaag	aaggaaacag	acaagaaaat	ggcttcttga	ggtggcag		168

<210> 118
 <211> 150
 <212> DNA
 <213> Homo sapien

<400> 118						
aaaaaaaaga	gtttatttag	aaagtatcat	agtgtaaaca	aacaaattgt	accactttga	60
ttttcttgga	atacaagact	cgtgatgcaa	agctgaagtg	tgtgtacaag	actcttgaca	120
gttgtgcttc	tctaggaggt	tgggtttttt				150

<210> 119
 <211> 154
 <212> DNA
 <213> Homo sapien

<400> 119						
aaactgtgtg	agatattaac	cagcgcgcct	gttataaaat	caggaaatcc	aaacagcgat	60
ttacaccgat	taacaccccc	ttttatattt	tttcaaatac	actgagaaaa	taatcaaacg	120
ttttcatctc	tcttgtcttt	ttttgttttt	tcct			154

<210> 120
 <211> 314
 <212> DNA
 <213> Homo sapien

<400> 120						
ctgctgtggag	tgacgggagg	agggaaatcac	tgtgtgtgcg	agagtgcctc	agactcaatt	60
tccaaaaataa	ttttcacccc	tctaagcatg	taaattcaaa	gatggatcct	tcatagaaat	120
taaaaaatca	atttgagctc	atttogaata	cagaacaagt	atggcacaga	tggaaagtcct	180
gccacgtttc	ctttaatgat	gctgactctt	gtatcacaca	ggccagcatg	aagtttctta	240
ctcagacttt	acaggcattt	tcgtaattc	aatcagtcct	gctcccagca	caacacagga	300
ggtgattcga	gaat					314

<210> 121
 <211> 601
 <212> DNA
 <213> Homo sapien

<400> 121						
aaaaaaaacc	taattcattg	aagtaataac	caaataattt	tcaatcttga	ttcaactgtg	60
attcaaattc	tacaccattt	gccctttcta	tgaatttatg	tataaaattt	tttaagagtc	120
agagtttttt	tttcttgatt	aattggatgt	atttcacaga	atttccaact	gctcacgtta	180
gttttcttcc	ttttagagtt	gatctctcta	atgtattaga	tcttcatgcc	tttgatagtc	240
tctctggaat	aagtttgcag	aaaaaacttc	agcatgtgcc	aggaacacaa	cctcaccttg	300
atcagagtat	tgtacaatca	catttgacgt	accaggaaat	gcaaaggaag	aacatcttaa	360
tatgtttatt	cagaatcttc	tgtgggaaaa	gaatgtgaga	aacaaggaca	atcactgcat	420
ggaggtcata	aggctgaagg	gattgggtgtc	aatcaacgac	aaatcacaac	aagtgattgt	480
ccagggtgtc	catgagctct	gtgatctgga	ggagactcca	gtgagctgga	aggatgacac	540

tgagagaaca aatcgattgg tcctcattgg cagaaattta gataaggata tccttaaaca 600
g 601

<210> 122
<211> 486
<212> DNA
<213> Homo sapien

<400> 122
ctgtttctaa ttgcttttgt gactggtacc ttttagttca tgcccccca aagagctaaa 60
tttcacattt ttacctacaa aattgatttt taattcctgc aaataattta ccattatgag 120
ctacaagggtg ggcaacagcg cctgaggatc taattttatg catattactc ccaagtattt 180
taacacttgt tggagaagca atatctggat caataaaaca ctgtcccatc aaccatttga 240
gtggggagag ggagaagctc ttctgtaagt aagattctgg caagctcttt gaaatgagtc 300
ttctttccca cagattttct ctactctttc aatacaaca gataggagaa gagggaatag 360
aaacctggag gaacttgaat atttttgttc tagatagaga tacagttatt gaaaaggaaa 420
cctagaaagt agtcacacgt cgcttattta ggccagaagt aattgtactg ggcaaaaatt 480
tcactt 486

<210> 123
<211> 239
<212> DNA
<213> Homo sapien

<400> 123
ctgggtgggtc tttttttcct ctacagagctc aagcctgtag tgcttgatgt catttctttc 60
aagttgcca cagtatctcc acttaaaacta ggctagtaac caaaataatg tggaccttct 120
ttaggaaaca gtgtgggaga ataggagtcc agccgtaaga taaactggaa atatttgggc 180
gtcttgtacc tggctacgca ccacctcagt gttgttctca cataaacaag gccctttt 239

<210> 124
<211> 610
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(610)
<223> n = A,T,C or G

<400> 124
ccanccaagt cnttgatgat cactgaccn cgcgcgcctg ctggaccaag gtggctgcgg 60
ggaaatcgcc acngngcttt cggttttctt ggtgaaggaa tacaccgcgc cgacagcagg 120
ttttcagtca gggtcaggga ctggtgcttg cgcgcgaaaa tcaccggtac gccgaggttc 180
aggccgggtca tgatcgccgg tgcaatgcc gaggettcga tggtgacgat cttgggtgatg 240
cccgaatcct tgaacaacgc agcgaattca tcaccgatca gtttcacag cgcggggtcg 300
atctgggtgg tcaaaaaggc gtcgaccttg agtacctgat cggaaaagcac gatgccttct 360
tcgcgaattt tcttgtgcag tgcttccacg aaagcttctt ctggttggcg aacacgcgcc 420
gaaagtagat taaaaagtag tcgattctag cgctttaaca tcgcgcgtat atccgccagg 480
gcgggtattgc cgccaacggc tttgacttcg gttgggtgtg cgtcgttgcc ttcccatgcc 540
aggatcatccg gcggcagttc gtcaaggaaac cggctggggg cacaatcaat gatctcgccg 600

tactgcttgc

610

<210> 125

<211> 196

<212> DNA

<213> Homo sapien

<400> 125

ctatagggct	cgagcggccg	cccgggcagg	taaaaaatca	gcccctaatt	tctccatgtt	60
tacacttcaa	tctgcaggct	tcttaaagtg	acagtatcct	taacctgcca	ccagtgtcca	120
ccctccggcc	cccgtcttgt	aaaaagggga	ggagaattag	ccaaacactg	taagctttta	180
agaagaacaa	agtttt					196

<210> 126

<211> 247

<212> DNA

<213> Homo sapien

<400> 126

aaattagtta	aaaaaatgca	ttcctcattt	gatatagcca	cattccaaat	gcttaaaagc	60
cgcattgtatc	tagtgactac	catactggag	agtacaaata	tagaacttta	cccgtcactg	120
cagacagttc	tggttgattg	tgacagcattg	gacaatatat	acagtttgcc	tgtatatgag	180
aaagagagag	agagagagag	tgtgtgtgtg	tgtgtgtgtg	tgaagtgcaa	taaggctgac	240
aggcatc						247

<210> 127

<211> 590

<212> DNA

<213> Homo sapien

<400> 127

cctccacggc	atggcgcaat	tggtgttcag	gggcgcgcag	gttgctgccc	atgccgatgt	60
agatacgttc	cacgtgctta	ctcgccagac	gcactcgaag	cgctcgccagc	gctacgtttg	120
cgcttgctgc	cactgctgcg	gcgacgcttt	ttcggggccat	cgccgggtggc	ttcgcccttg	180
ctgctgagct	ctttgatcat	ctcgcgggcg	tggctgtcgt	tggcgctcctg	gtagtgggtc	240
caccactcgc	caaggccgtc	ggtctgttcg	ccggcgcttt	cacgcagcag	caggaaagtca	300
tagcccgcca	cggaagcgcg	ggttgtccag	caacagggtcg	gcacgtttgc	cgctgcggcg	360
tggcaggcgc	tcctgcatgt	cccagatttc	acggatcggc	atggtgaagc	gtttcgggat	420
ggcgatgcgc	tggcattgct	cggcgatcag	ctcgtgagca	gcttcctgca	tggctggaat	480
tgccggcatg	ccacggctct	gcaggcgcat	gacgcgtttc	gaaagcgcg	gccacaacag	540
ggcggcaaag	aggaacgccg	gggtgaccgg	tttgttctgc	ttgatgcgca		590

<210> 128

<211> 361

<212> DNA

<213> Homo sapien

<400> 128

ctgcccattg	aaacctccca	ggagctgctg	gacctgcaca	ggaccagtga	gagggaggcc	60
attgaagtct	tcatgaaaaa	ctctttcaag	gatgtaacca	aagtttccag	aaagaattgg	120
agactctact	agatgcaaaa	cagaatgaca	tttgtaaacy	gaacctggaa	gcacccctcg	180

attattgctc	ggctttactt	aaggatattt	ttgggtcccct	agaagaagca	gtgaagcagg	240
gaattttattc	taagccagga	ggccataatc	tcttcattca	gaaaacagaa	gaactgaagg	300
caaagtacta	tcgggagcct	cggaaggaa	tacaggctga	agaagttctg	cagaaatatt	360
t						361

<210> 129
 <211> 546
 <212> DNA
 <213> Homo sapien

<400> 129						
aaaaatacaa	attcagtaag	acttttgctc	taacaacaat	ttttcaaaac	gaatcaacaa	60
caaaaaagta	tccagtgttt	cttttcttat	gaagatataa	taaaacacag	tattggtaag	120
cacatttttaa	cagtatgctt	ttcttttgta	gggaaaggag	atatggctat	gtctaacatc	180
gtgggatcca	atgtgtttga	tatgtgtgac	cttggtattc	catggtttat	taaaactgca	240
tttataaatg	gatcagctcc	tgcagaagta	aacagcagag	gactaactta	cataaccatc	300
tctctcaaca	tttcaattat	ttttcttttt	ttagcagttc	acttcaatgg	ctggaaacta	360
gacagaaagt	tgggaatagt	ctgcctatta	tcataacttg	ggcttgctac	attatcagtt	420
ctatatgaac	ttggaattat	tggaaataat	aaaataaggg	gctgtggagg	ttgatattat	480
taatagtgtt	atgcagaaaa	tatgaatggc	agggaggggc	agagagaaaa	atccatttct	540
tcattt						546

<210> 130
 <211> 733
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (733)
 <223> n = A,T,C or G

<400> 130						
ggggcctctt	cctaaaggca	ctaateccat	ccaatagggc	ttaacctcat	gacttaatca	60
actttcaaaag	acaccacatc	ctaattgccat	cacatcagaa	tttaggcttc	aacatatgaa	120
ttttggggggg	acacaaacat	tcacctcata	gcattcattg	tttcttggtta	ttggcaaagc	180
caagactcac	attgtctaag	ttatttgact	tttgagtcg	cagatgtgaa	aacagtgcta	240
aacagtccag	cttcatgagt	ggagaacagc	atttgtgaca	accaccaaag	tacctctgtg	300
gtcagtgtcc	tcaaccaggg	cacagcatca	tggaccagag	cctctgcagg	gcacagagga	360
gtggtgagga	acaggggctc	tggagcaacc	ccacttcctt	ctgctttgta	tatggggggg	420
tctgcacatg	actgcatttg	aaaagggtct	cactgcgtct	gctgaaggag	tgcacttgag	480
ctagcggaga	gttcccagag	ggtgtctgga	agaagcaaag	gctattcttt	gtttcactca	540
gttatagatg	gaagtcagac	acttctgcct	gaagtacttt	cacacactcc	acagtcttaa	600
gaaggatgga	naaagcatgc	caactactca	naaaaccaca	ggtgttcaag	caatggatc	660
cttttatncc	tacaactagt	ggacaaagng	gggcctctgt	aatttgggaa	agctaggaaa	720
actttttctg	ggg					733

<210> 131
 <211> 305
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(305)
 <223> n = A,T,C or G

<400> 131
 aaacacatac gaatanntna actgtgatta tgaagtgaca gccggctaaa tatgtcttgt 60
 attttctctc ttcttttttt tgctaactca tcctttatcc cattcctgct tccatggtaa 120
 tgcaggctca aataaattac taggatacaa gattacttca agcctctttt ctgtggaact 180
 cataagtatga taagcatttg ttacaagatt gcctgtagtt gtttagggga caaattatat 240
 tagggaaaga aagtctttct ttagttgggt aaattttcta ttataattgg gtactaaatt 300
 tattt 305

<210> 132
 <211> 545
 <212> DNA
 <213> Homo sapien

<400> 132
 aaacaatgct acactcattt ttggcaaagt gctgtattgt tcagtctgtg tacaaaactg 60
 accatctatg aaccaatcag tataaaaaat ttctataaaa acaaaattta gacagcggct 120
 caagaaaaca agtgccatt tatgcataga ttgatgtaca gtaacctaac caaatgtccc 180
 ttttgaattt tcaagttact gaaaaaaaaat gtgtcgagaa acacattaag aaggcacatg 240
 tacagtctac aatactcttc agtctcccta actcatgccc tgcccctata aaggaaatat 300
 gttcacaatt ttacttgaga aaaaaaaaca aagccactta aaaaaaaaaa aacacacacg 360
 caattattaa agttcaaaat ctctggagga aaatacaagc aaaaccactc atacactcca 420
 agcctgaaac acacatctaa cctccccagg tactggtttg gttttcagag gtccacctag 480
 aaaacaaatc taaaacttca ggcaaaacag agcaaaaactg gacatttaac aattacacaa 540
 ttttt 545

<210> 133
 <211> 330
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(330)
 <223> n = A,T,C or G

<400> 133
 aatattttatt actaatatct tataatgttt tgtggnacca tggcatacct tgggtactat 60
 tgtaacanat agttcaggaa accctactat aagggtttatc aaatgggtctc ataaacagtt 120
 acttattcaa gcacgccaaa gctcagtga aagtattttt cacccttact ctttctcgtg 180
 tcattcaaag agaagttttg atgtagtgtt tttattttgta gggagtaatg aacagatcca 240
 tttcacagta gactttgtgc tctaggtgat gcagctaatt gccccagttt ggaaaacatg 300
 gacttgatg aattgtcttt tgtttgggac 330

<210> 134
 <211> 627

<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(627)
<223> n = A,T,C or G

<400> 134

aaatattact	tcaaatacat	tttaaagctc	aacaaacttg	tgttgaactg	aattgcagat	60
cctgaaactct	atttgaaaaat	acatcatgaa	acagaaaanc	ccattccaaa	tgaaaatgat	120
agtgccttgt	tgggggtggg	aatgaggcgg	ggagactaaa	tcactattaa	cagacttctt	180
ttcccaatgc	aatttgtcaa	aagttcaaaa	gttctgaaat	gtactaaatc	ttaagcaa	240
taaattcatg	atattactaa	aactttttaa	atagtgaat	gacttatcaa	gttatagtgg	300
ctgcattaag	aacaaattat	tgtgtgaaat	acctgtataa	acacaaaata	caattaaata	360
tttctttaca	aaaagctgag	cattacgcac	aatagtggaa	tgtctttcat	taggtgtatt	420
ttttaaagat	taacaaaagt	aacatttcct	aaaatgtata	catgtgccat	atttttgcaa	480
acatgcctga	gaatgtatct	aaaacatttc	tgtagtaaga	gtttgcaaga	acttcacaaa	540
cctgcaaata	aaatgcatct	ttttaaaaag	gtgaaaatgg	catctccaca	ctgcaacaat	600
tcaaaaagtg	cagcatccct	aatctttt				627

<210> 135
<211> 277
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(277)
<223> n = A,T,C or G

<400> 135

aaaatcaa	atattatttg	ttaaaaatca	gcttggtttca	ttacnggaaa	ttacaccagt	60
ccgttctatt	tacttttcaa	ccatattcaa	ctcctcaact	ttcaaacatg	taatcaacta	120
atttcaaaag	ggaaaaggta	ccctttataa	aggagagatc	tgttaagaca	ccaagaaatc	180
aaaattaata	tcacttaata	attaagtggg	taacacatgc	ctcccaatac	agtgcagtga	240
gaaacacaaa	acatcaattc	ccgcgtactc	tgcgtttg			277

<210> 136
<211> 486
<212> DNA
<213> Homo sapien

<400> 136

aaaacagaat	gaattcattg	ttacagttac	agaagtcaga	agcccaaata	cagtctgcct	60
gaaccaaagc	cagggtcagc	aagggttcctt	tccactggtt	tgccaacttc	tagaggccac	120
ctgtattcct	tgggttcattg	cccctctctt	catcatcaaa	taatcagcat	agctttatga	180
cattggcagc	tctgattttg	ctctttttgcc	ttcctcttat	gtagaccctt	gtaattacat	240
tgggtacacc	cagataaccc	caaataatct	ccctatctca	agattcttaa	tgtaattata	300
ttgggaaagt	cccttttgtc	atataagata	acatagcaat	ggattccaag	gattagtatg	360
tgagtttctt	ttgaggggct	ataattaacc	ctaccacaat	atggaaatgt	ctattgtttt	420

tctatgtacc agaaataaga cattaggatg tgaaattaat aacataacac cacttacggc 480
atcacc 486

<210> 137
<211> 552
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(552)
<223> n = A,T,C or G

<400> 137
ccatcttgca tcaaatgttc ttaaggcagt gactggctat caaccacagt ttctgtctcc 60
ccagttgcaa acacaggatc catgcaacag ttctgagacc atacacttag aaaccacagg 120
ggatgcggtat caaatgcaga actcccaaat tataaaacag tcaggctaca ctcaaaacaa 180
aacatagaac atcaacaaca cacatctccc aaaaaagaag tgcaacgcat gcttgtataa 240
accaacaata acaaaaaaac cacaataaaa aatgcagagt ctcccaaaca agttttcaaa 300
tgtattgcan aaagaaaaaa aatgtatata tatataaaat taaaaagtct gaaatactag 360
tgcatagtca attacctaac accaagtttc ttttctttct gtccaagctc tactgcccct 420
ctgatactag cagcatgtct acaggctaag accatagcag caaaaaacgt ttttcatttg 480
gcatttacia aattaaatta ctgaataaaa atataatttt ttataaaaact atttcttaca 540
gtaataattt tt 552

<210> 138
<211> 231
<212> DNA
<213> Homo sapien

<400> 138
aaattttact agtgttactt aatgtatatt ctaaaaagag aatgcagtaa ctaatgccct 60
aaatgtttga tctctgtttg tcattacttt ttcaaaatat ttttttctgt aaagtataat 120
atataaaact tcttgcttaa attgaatttc tatattagtg gttaattgca gtttattaaa 180
gggatcatta tcagtaattt catagcaact gttctagtgt tttgtgtttt t 231

<210> 139
<211> 535
<212> DNA
<213> Homo sapien

<400> 139
cagttgccaa ccctctgaac cgtttaggcc gggttcacgc tgcccttgaa tctgggcccgg 60
tggtgatccg gcaaggggtg aaaccaaaga gcgggggctg tgaggccctt cgcagtcctt 120
cgtaagtcgc tgcgatggag tgaactatca cgcacgctgt ttatttcgtc aacacgaaat 180
gtgatttatt tttgcgaatt aacacggcag ttctcgggta cgttttcgga aagcgtggga 240
tatgattctg tctatcctgt acggatatac agtaattacc gggaggggat tccatggcga 300
agaagcaggc ggcaccggca gcacggcagg aaatgagcgg tatggcgcg ctcgggcttc 360
gcgtctcadc gatgattaat caccgggtcg ccagacgca gcgctgggtt acgattcadc 420
gcctggacac ggatggggat cgggagtggt aagaggttct gagcgtgac gctgataccg 480
acgagctcga gctgacgctc aatgacgatg gcagtgtgac ggtgaggtgg gagca 535

<210> 140
 <211> 640
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(640)
 <223> n = A,T,C or G

<400> 140
 acattggtgg cacttgaact gagtgcaaac cacaacattc ttcagattgt ggatgtgtgt 60
 catgacgtag aaaaggatga aaaacttatt cgtctaattg aagagatcat gaggagaag 120
 gagaataaaa ccattgtttt tgtggaaacc aaaagaagat gtgatgagct taccagaaaa 180
 atgaggagag atgggtggcc tgccatgggt atccatgggtg acaagagtca acaagagcgt 240
 gactgggttc taaatgaatt caaacatgga aaagctccta ttctgattgc tacagatgtg 300
 gcctccagag ggctagggtta gtacaaactc gcattcatgg cttgggtttcc cagaagatct 360
 ccatttaact tttttaaaga aagtttattg ctttctttaa cctgcatttt ttctaagttt 420
 tttttcgcac aaagggtgctg tctttgtggc aaggcctagg catgacaatc ggaggactcg 480
 aggggggatgg aggactagtg atccggctgg ctgcttccag tcgattagag aggtgaaaaa 540
 gctgaacgtg tgcccantna atcttcaaaa aggcagaaac atatcacctt ntgccccnt 600
 aaacttggtc tttttccgaa ggggaaaaaa aaaatggaaa 640

<210> 141
 <211> 127
 <212> DNA
 <213> Homo sapien

<400> 141
 aaaaatcaca cactgacaac acagaaatac gaaatgctag gaaaagtcta gcatatgaag 60
 gaaaaacatg tcttatgcac tctaataata ttttttcaat tagtataaag gcaaatgcgg 120
 ttttttt 127

<210> 142
 <211> 126
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(126)
 <223> n = A,T,C or G

<400> 142
 aaatatactc tggatgcntt caagtaatac taatcatttc atgngnaaaa gtcttttaat 60
 aaacaaattc agagtaaaat taattgaaat atttataata catttggtac acagttattt 120
 ccaata 126

<210> 143
 <211> 730

<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(730)
<223> n = A,T,C or G

<400> 143

gcaagttctg	gagtgttcac	ttctgagcct	gaattccctc	ccctgcaaaa	tgggggaata	60
ccctcctcag	agggtccttg	cgaggggtgag	gggagatcag	catggcaggt	gtgctgggca	120
cggcagggcc	tgggaagggc	agatcccttc	cccatccctg	ccacaaacaa	cccaaaccct	180
taaaggagag	caatggcctt	gtgtcaaaaa	caaaaacaaa	acaaaaccct	gtcctaggag	240
actggggccc	taatttctaa	tagcaagcct	ttatgagtcc	ctaacactct	actgggctga	300
gtatctcaca	cgccagagga	taacctgcct	tctgctcacc	accaccccg	agtagttgtc	360
attgtgtcca	tttcacagat	gaggcaaagg	ctcagaagag	tcatgtgtta	aaccagcttc	420
tagagcccat	gcaggagctg	caggtgggga	gaatcacctc	taggtgctct	tcccatggaa	480
tcctcaccct	ccttgagtgg	tcactcactc	anccttccaa	tgggtgtgtg	acctttgacc	540
agctttcttt	ccttntctgg	gcctcagttt	cccaccttgg	acaaagtaag	aggtctcttg	600
ggnttcangg	tagttcttcc	taacttcttt	tccttttcat	ttgagcatcc	ttcttcattt	660
tttgccacct	ctcttgtcat	tacangcttt	taccttcggc	cgcgaaccac	gcttaagggc	720
naaatttcca						730

<210> 144
<211> 485
<212> DNA
<213> Homo sapien

<400> 144

ctggtcagaa	atgattctct	tgtgacacca	tgcgccacaac	aggctcgggt	ctgtcctccc	60
catatgttac	ctgaagatgg	agctaccttt	cctctgtgtg	gcattttgtc	gcttatccag	120
tcttctactc	gtagggcata	ccagcagatc	ttggatgtgc	tggatgaaaa	tcacctgtgt	180
tgcgtgggtg	gtctgctgcc	gccacttcta	atcctcatca	tgacaacgtc	aggtatggca	240
tttcaaatat	agatacaacc	attgaaggaa	cgtcagatga	cctgactgtt	gtagatgcag	300
cttcactaag	acgacagata	atcaaaactaa	atagacgtct	gcaacttctg	gaagaggaga	360
acaaagaacg	tgctaaaaga	gaaatggtca	tgtattcaat	tactgtagct	ttctggctgc	420
ttaatagctg	gctctggttt	cgccgctaga	ggtaacatca	gccctcaaaa	atattgtctc	480
aacag						485

<210> 145
<211> 465
<212> DNA
<213> Homo sapien

<400> 145

ccaagacagc	tcgtttcttg	agagtatgag	ggtgtgtttt	cttattgtga	aaggaactac	60
cttctcttag	agggtaggaa	gaatgtggtg	tgtgtgtgtc	tcataaagca	accggacatt	120
ataggtgccc	aggtcatcta	taaaaacgat	ccttgggctg	tgtaaaaatg	aagtggcttt	180
tcagtatcct	ctttcacact	tgctgcttcg	ggagactatg	caatgatggg	aaggtgattg	240
cccccttatt	tcattcagtg	ccatgggtccc	tggtgttgta	gtaatttatt	tgtttagttc	300
atTTTTTTTT	tcttaacagt	caaggggaag	agtgattcct	cacactgctt	tcaagctgga	360

ctgagccagt ctcattctgg gaaagaaatg ctgtgtccag aactcagcag ctccatctat 420
 tttttccagt cgaaagaaac tgatcttttag gcagttttta cttgg 465

<210> 146

<211> 351

<212> DNA

<213> Homo sapien

<400> 146

ccagccgggg taatctgtat gtggcggact tgagctacga cgtgggcggc aagtgcctgt 60
 ttgaccagat cagcggcgtg aagcttatgc caactcatcg tttgataaat ccgaggatca 120
 gttcaagacg tcgcagcggg tgattttggg aacgtcgttt tcggtcagta aattgtgggt 180
 agcgacggag tggttgatcg gcaagaatga tccgtatatt ggcgggagca gctataccga 240
 gagcctgggg gctgggggga gtaaccagtg ggagaatcag ttatatatga acattgggta 300
 ctacttctga cttaagatct ccagcgtttt aactggcctt atcgcaggca a 351

<210> 147

<211> 654

<212> DNA

<213> Homo sapien

<400> 147

acttattttt aattactgaa tatttcttag acgttttggg acagatttta tgtaatcttt 60
 ataagtatga tttctgaaga aaagcaaatg cattagtatg tttgccttaa acttgtagac 120
 taaaccaagt attgtaaaat aaacagcgat aacagtgata gtttttaact ctatggtcac 180
 tgtatcactc tggaaaatgt ggagtagctg taataaatct actcctgtat tatgctttac 240
 agtgcaggtc ttagtttttc ttttttctca tttcttttga aatggcatct cgaacaaagt 300
 ccaccaatcc ctttacaaaa gaatgaactg ctctctctgtg tgtacttcat agaagggtgga 360
 atcgacacaga ggcaggtttag tgacagttat tcctgaaata caggagcaga gtacagtcctg 420
 ttgtgggttt ccggattccg cgctagctc agccaattaa gcatgagaca taggccattg 480
 agccacttag tagttatgcg agtggataga ttggtagta agaggggaaag aggtctgctg 540
 taaagaacaa cacttgtttg tctgtgggga aagaaaagca gaatcttgag atgaaagttag 600
 gcatacaaat aggatactat cgccagtagg ttatattaca aaacatttat cggg 654

<210> 148

<211> 539

<212> DNA

<213> Homo sapien

<400> 148

tgaatatcat gaggggtgatt ttcacctgat tgcaaaactg ccatagtttg aaacactttt 60
 tcaatttacc agacacactc tgtcaagact tcatatactt ccaacttgca agcctgtgtt 120
 ttgccttctc caacctaaaa aggaaaagct ttaaaccgatg aacttacatt ctattaaacc 180
 atcagacttg agcttatcca tctgttttagc gtgaatgtac aaaccaggta catttccacc 240
 aaacacatag aaaaatcttg tgcacacag ttcagctaag ggtagtagga caatccttac 300
 aatcctcctt ggatttcttt ttttaagatgt caaagaagca ggtaagcaac attgttcatt 360
 tgttactggg tgttctagat caaaccttca caagctatat atatagcttc atatgctata 420
 gcttacaaat ggggtaacaa agtaaaaagaa aagaacaaat tatactttga cactttatag 480
 tcaaagtata attaaaaaag aaatcctaca gtgggtaatg gagaaataga taatttttc 539

<210> 149

<211> 273
 <212> DNA
 <213> Homo sapien

<400> 149
 tttttggtca ttctcctcaa ggagccgctg gatagtagtc ttgattgact tccaccttgc 60
 ccctcataca gtccggtact aaggccaccg acatcccag gaacctccgg aaccacgacc 120
 gccaaagcaac tcgacccacg ataggtgggg cctacgctct cgaagttgat tggatgctcc 180
 cgcctacagg gcgggggtaca gaaggacgt catttgtagc tggacgcgca agagctatac 240
 tcagcagctt tcctctgtcc cagccctag aac 273

<210> 150
 <211> 200
 <212> DNA
 <213> Homo sapien

<400> 150
 gtttttacta ccgtatggcc catttaaaag ggatgtgtac gccttacct ataaccctta 60
 aaccacctag aaatatgaaa ctcaaactgc cactgacct cctcaccaag ctccataaaa 120
 gtaaaaaatt ataacaaacc ttattaacca aactgaacga acatatgggc gattgattca 180
 ttgccccac aatcctaggg 200

<210> 151
 <211> 515
 <212> DNA
 <213> Homo sapien

<400> 151
 ctgtagcgat ctttaagaat attttatata tgaaatctgg atttaggggt cccatgggtct 60
 ggaccactg ggtacagtag ttctacatgg cagtaattca ttggagttga agcagtgagg 120
 aaagagtcaa gtactagtct ttatcctca gtgtccagt actgtcaaga gaaatgggac 180
 tgcttctgc attgggatat gtgggttaaa gagtagtcca atatagaaga gtgagaaaagt 240
 gmaccctctg aggcatagta atgttttatt kraaaacatc tcacatgtat tgaatactta 300
 sataggatgt attctgtatt actgaatttt ccagattatt gaagcaatca cctttctgtg 360
 tttaaagttt tagaaagaat gcttttaaaa atgcttaaca taagataagc ctgttttcat 420
 ggtgcaaggt cctttctatg aacatgaatc actggactct gagggttgga ctaagatcac 480
 atctacatcc cttttaaatg actagtgtgc tcaga 515

<210> 152
 <211> 243
 <212> DNA
 <213> Homo sapien

<400> 152
 atttcaacaa catacttgtc gaggtagtta taaatcttct tagggggagg tgggtggttc 60
 tgttggaatg ccaattttac agcttctgct gctgattcag gttctttaat tatgcttttc 120
 tttgagtctg cttcagatag cacaacaaaa aaatgatgac acttttcaca cttgacaaaa 180
 cgggtggatg atacaaaagg tctctacatg tgtgcacaag tcgccacatt taggacagcg 240
 cag 243

<210> 153

<211> 620
 <212> DNA
 <213> Homo sapien

<400> 153

ttgtcttctc	taccttacca	tagccagttg	ctttcatttt	aaaccagagc	aagtaacata	60
ttagtgactt	gaatcttcat	aagttaaagt	aaaaaacagc	aaaaaaccta	gatctttgtc	120
ttttagaaca	cagaccattt	tcaggaaagc	agtttagctaa	gtgtttaatt	catgaatatt	180
gtatactgca	tcccttacca	caatttacac	aatcctgtgg	atagtcctac	ctcaccctgg	240
tcaacctaca	tgatccttaa	gctaattggc	gatcacgatg	accttgtaga	catgcacaca	300
actatacctt	tgtccaacag	atcataatat	atctgctatc	caactgggtt	tacctgccta	360
atcctactga	tttgggcact	gcttgatatg	tctctcaagt	tcacaggaaa	tgttgatttt	420
ctaaggctct	catttttaca	gagtatacag	gcaaagtgac	aggggaaaag	gaattagtct	480
aagagtaagg	ggatgattat	tatattgagg	ctaaaaccac	aaagtggctc	aggctttaaa	540
aaaaaacact	gtggataatg	acaaaaagca	taagtaaaaa	tatttttgaga	aaaataaagt	600
acaagttttg	aacaccccc					620

<210> 154
 <211> 843
 <212> DNA
 <213> Homo sapien

<400> 154

cattgttagt	gacccaagta	aattttatagt	ttttaagttc	agaggaaaaa	taaagcctat	60
tttttgtaa	cagtcttaat	aaataataaa	atggaataaa	gaaacaaaaa	aaaaaagaaa	120
aagtttgtat	gaaaattcat	ccctattttct	ttattttgga	ctaagtagtc	aaattttctac	180
tatattaata	ttatgtaagc	gacacccatt	taaattcact	ctctttgata	gaaaggtgag	240
ttgattatca	cacctgctat	tttttctactg	ccaaaragac	tgcaataacc	tccctccatc	300
accctcaaaa	aacaaacaga	aaccatctga	ggcatagcca	ttgtttacat	attgtgtttg	360
tgtgcaccta	tctacaacgt	tctttcttct	aaggagttta	tctgccata	ttttcggctt	420
cagcagcagc	gctcttcttg	acagactaag	agaaggatct	acagaaaagt	catctgatta	480
aggttttggg	tcaaattaaa	actctctgga	cagaatcctc	tttccttcac	ttggattttct	540
gcaaacagaa	agcagattat	tctcctggca	caatagcgac	tctagaaacg	cttatgtttt	600
tcagactttg	gcagaacttg	ttaagaacag	catcatcata	atacatttgt	acaaactcga	660
atttcagtgg	ctcttttgtc	ccacatgatg	catgatgaaa	tttataaagg	tctgttttac	720
ccccacaggg	tcatttcttt	tgtgttccta	cagagccaat	aggcttcatt	taagtccaag	780
ttattatatt	aaccatccct	ttcactagac	tagagaactt	ctttttcatg	gtccatatcg	840
tga						843

<210> 155
 <211> 674
 <212> DNA
 <213> Homo sapien

<400> 155

tttcgtgtca	gccccaggtt	tgctccagct	attcacaagc	agaatataac	acaagaaaaa	60
caattcatat	cccttaggga	aaaaagagga	tcaattcatc	actcaatatt	taatacagcc	120
aaaatgagct	gcaaaaacaa	gcacacacac	aaatactgtg	aacagaaaaa	tacaagaaaa	180
tgactaagct	gggagtcctg	acgggggatg	gacattgctt	aaagcactta	tcagtcccca	240
gaaaaaccaa	acaaaaaaca	ttttttacga	tggcatggcc	tcattggccc	ctttaaaact	300
gttgatggta	acaaagggca	gggggtgggg	agagaaaaca	caatcactgc	tccctttttg	360

ctcgccagt	tgactgcacc	cctcacggca	ccggcatgta	cacaactacc	acacaaggag	420
gaccaagtcc	ctctgctggg	ggcctcctaa	aaggcaaggc	ttgagttttg	gctgatgagc	480
aagttctctc	cgttaccaat	ccctgccaac	cagcactacc	atggctgaat	tgatctaccg	540
ttttcctgag	taaactgtaa	ctggctacag	tttcggtaac	atggaaaaga	actcagctac	600
tacagccaac	tgcaataact	caggaacccc	ctccatccct	ggggctcctc	actcctagt	660
catcttgatt	ggat					674

<210> 156

<211> 671

<212> DNA

<213> Homo sapien

<400> 156

ccttttagtga	acacctttat	ctccatgtcc	ctcttagagc	ccagagagct	gcccataggc	60
attttccaga	attcctcatg	tcacctagtt	caatttccat	taactcagat	cagccattgt	120
gattcaccat	ttgtcaggct	ctcagggtta	acaaaacctt	ctatcaccat	catccttcaa	180
cagccacagt	ctgaattgag	ccaacatttt	ttttcttttg	agaaagaagt	gggctggggc	240
acaactttta	gtctgagggg	agctagtagt	cggttgaca	attaaagcca	tccataacaa	300
cttttctca	aatgtgttga	ctcctcaggg	gctaaactgc	tcttagctta	gaattatgct	360
ttactagaga	tctaccatat	aagtgggtta	atcactacca	tctgttaact	agttatatag	420
cttccagaca	tgagggagac	atcaaaccag	gatggaagca	accccaagga	tatgcaagaa	480
gggcatgatg	aaccccttcc	cctctggcag	gagaacaagg	ccaaccaagg	gacagactgg	540
aaagcactta	gatgtttaag	gaggagaaa	gggaagcttt	gaccagtcct	tgctttttgc	600
caagttcagc	cagttctccg	ctgcttgcaa	cctctagcgc	agtaacattt	tgcaagaattg	660
cagattttcc	c					671

<210> 157

<211> 474

<212> DNA

<213> Homo sapien

<400> 157

cgcgttcttt	aattctttta	gcctagaaa	tccttttacac	tactttaccta	aaggtcccaa	60
agtaaaacac	acactagtag	taaggctagt	gcattttccct	tctagcactc	aaagaaagct	120
taacattttt	gacagtttgc	aaataccgcc	ttgtattttct	gattcagcct	tattcaaagt	180
atcataataa	aatattttatt	aaatstatgt	tgatctgcgt	gcattttatga	tctccagatt	240
aacgttaggc	ttctctgttg	ggccctaact	tggaggtgct	tttttggatc	cctcctccc	300
tgattcattg	taatttcatt	tcccttggtc	tggctctgac	cagagaagat	tctaaatct	360
tgcccccaaa	gccaaaatta	tatcttttga	aaagtgaat	gaagagttga	gtcastaatt	420
tatttttagat	attactgcct	aaaacaattc	cccaaaattt	atggaagttg	gagg	474

<210> 158

<211> 584

<212> DNA

<213> Homo sapien

<400> 158

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agtgccaa	gtttagtca	atttaccct	ggaataactat	atacaactct	gggtctcatg	120
tgtgttaaaa	tacatacagt	gaagctgagg	aagagccact	gaagtaaaaa	gtattgttta	180
caagttggaa	aggatgtaaa	aataatctaa	agtataactaa	gtcaggaata	aaaggcagag	240

ttaataaaat	tgtggctggt	actgatagac	gaaacagata	tattttctaa	atcctggaat	300
aattattaaa	aaattttaca	tgtatcaatg	gattccagac	tccatatttt	aagtttcaca	360
actactgtca	tttaaaacta	taccttattg	aacgtctccc	actctcaata	aattacccca	420
aatcactctt	ctccaaaacg	taaatttgga	acacactgac	ttacaaaattt	tgggcttaat	480
ttataggatg	ttgtggccct	caaaaatata	attgtgggct	aaacaaaata	aattcttgaa	540
acaattctaa	aatcaatca	ttgtccaaaa	tgaacttttt	ctaa		584

<210> 159

<211> 671

<212> DNA

<213> Homo sapien

<400> 159

cctaatttta	ttacttttct	tgccactgct	attattgata	gaaatacaat	taaataatta	60
agatgaacca	atccattgga	agattactaa	aattgtatct	tcccaatgcc	tcctacagta	120
agatttcttt	ataattataa	cccttggaga	caatttgaac	tttattttaa	tgttctgctc	180
aaatctaaat	ttccttctcc	taggctgaag	cctgatctaa	ataaggaagt	agttgggata	240
tatccacagg	ctgtcgaaca	tggagctgca	tctgagagac	aggtggcagc	aaccaaaagc	300
aaagcaggga	ctgagaacag	gcagggtcca	agagcaaaat	ggaacttgaa	agccaagtat	360
ggttcaactgt	aaaggagaaa	atatagaaat	acggaactag	aacacctggt	ctgggatgtg	420
gtaagcacc	aaaatatagg	aaaactgtat	gaattcttgt	gaagcagtaa	actatgatag	480
taatcatgtg	acacatatga	taacaaactc	aaaacaggga	aaagaggggc	tttattcaat	540
gctggagata	agtgaaaaaa	aaagtgaagt	gtctcaagga	cagaagttat	catctcaaaa	600
aggcatatca	gctagatctc	gcggaaacca	tatgattatc	ataattctag	actctgttcg	660
gtattacaaa	g					671

<210> 160

<211> 315

<212> DNA

<213> Homo sapien

<400> 160

ccagagaggg	agggctctgc	ttcaccacag	ggcaccagaa	gaggactggt	gcgcgggaag	60
accaggtaat	cataatgcta	ttaaaaatag	cagtaatcat	actgttttat	acattgtata	120
atgtcataag	gatttttaact	ttcatgtaac	ataattgctg	taaaagtttc	cccagtttgt	180
tttgtgctat	ttaccctggg	gttaaaatgt	gtaagaattt	acatttttagg	tatgttaggt	240
ttattccttt	ttatatggtt	tctgtttgaa	attttgattt	tagaagacat	tcatttctca	300
ggtcataaaa	cacac					315

<210> 161

<211> 607

<212> DNA

<213> Homo sapien

<400> 161

tttytgtgtc	accttgata	attgcttaac	ttttaaaatt	tacgttcctt	catttccaaa	60
aagggattat	aactcactgt	tattttgata	attgagataa	atgtacgtac	aagtgttttg	120
aaactgtaaa	gtgcattata	aacagagggga	tttaccatag	aggttctacc	ttgatgtatc	180
aagagaagcc	ttttctggaa	tctggtgcag	ccttggtgaga	tgctgttagg	taaggggact	240
ccttggtaga	atttcttaca	tttgtgtaaa	aagttctggt	tcctgagtaa	ttccaaagaa	300
gatgctatga	ggagttcact	gtgcctttga	tttgatccca	atgggtcaga	atatgttttc	360

tcattcagta	ggctactaca	ggatttgaag	tagaaaaaac	aggggtccagt	gaccttcacg	420
ggatcctaga	tgttcatgaa	tttcaatcat	ttgagattgt	gggggtgtgt	ccaatgctgc	480
tctcaaaaag	atgttgccct	tcttcasaga	gcattaataa	ctaaaaaatc	ccctgggtccc	540
aaatttattg	tgtgtmtctg	aaggctttta	ctgaagaaat	gaaawgcaca	ctcatggaac	600
aaactaa						607

<210> 162

<211> 443

<212> DNA

<213> Homo sapien

<400> 162

tgagttttga	aaaagtgaat	aatcaaaagg	aaaataattc	cttggtgttc	ataaattaag	60
catcactaaa	gtctcttgaa	aggcatttct	gtattgggca	agatttaaaa	tactaaagcc	120
ttaggtccta	ttcatattta	aagtagcatg	tttgtaacct	gttactattt	ggagagagaa	180
gcagttgcct	gccacaattg	aagactacct	ttcaaatagc	aaaagagaga	gagaaggctg	240
atatttcggg	cttttaaata	aagatttgtg	tggttctgct	tttactgtaa	ctgtcacttt	300
cccagtgaag	atgatttcat	atacatttga	gggtcttaca	sgtatgggta	aagttctata	360
aattgcaaca	aaatgatacc	caatttcatt	ttatcctttt	tgtattgtga	aactggaaac	420
tttatgacat	tgtaaattat	cag				443

<210> 163

<211> 686

<212> DNA

<213> Homo sapien

<400> 163

caggcaaatt	atagtcaaat	acatcacccc	cctcaggcat	ctgtggcaag	gcacccctct	60
agagaacaac	taattgatta	cttgatgctg	aaagtggccc	accagcctcc	atatacacag	120
ccccattggt	ctcctagaca	aggccatgaa	ctggcaaaac	aagagattcg	agtgaggggt	180
gaaaaggatc	ccagaacttg	gatttagcat	atcaggtggg	gtcgggggta	gaggaaaccc	240
attcagacct	gatgatgatg	taagttagct	ttgtatatct	ttgaaacacc	tataaagtgt	300
tatttaccga	ttgaataact	aaatgtaagt	gaaaatctaa	tagatgttta	tgtaaactta	360
ggtagacatc	acctggattc	cccactctat	tgcctacctt	tttgttttgt	aatttgatca	420
gttcaagtta	aaacaattta	accaaaaact	atgaatgttt	atgatataat	gaaatgattg	480
ttaactttct	tattgctttt	tcacacacct	ataaaaagtaa	ttttattact	cccaagagaa	540
atcactaaag	gcagaattac	tagaggtaaa	aataactagg	gttggtacag	tattactcag	600
gagaagtcaa	ggggagaaaa	cttgtcccaa	tgattcaaaa	taattttggc	atgggggggg	660
ggagggaaaa	aaatttggct	tccttt				686

<210> 164

<211> 706

<212> DNA

<213> Homo sapien

<400> 164

ttttttttgt	ttcatttgct	gcttaaaaata	aaaattataa	attagattta	aatggagcac	60
taattataaa	acagattgca	agtaccacca	tttgaaaaaa	aaaaaaaaaa	tcagtggatt	120
tccataacac	agaaaatgca	tggacatgca	tctacagtag	agttaaaaaa	ttcctgtgac	180
taaaaaatta	aaaactggaa	tcaccagtag	caaagtata	gtcaatggct	atgacaagaa	240
cagatcctgc	cgagctcata	aatgcaatta	ttggcttttt	tgctttataa	aaaagacatt	300

acatatttta	ttgcattatt	ctcctaataa	aaaacatact	accacgtagc	tctcccatc	360
cccattcttt	gcttccagat	ttttatagaa	aataactggt	ttagtctggc	cttggaaagt	420
gaaccaccca	gcaccacctt	cacctactca	ctcttcaatt	caatatgcac	atagcaaaaag	480
ccaacacttc	aaatctcttg	cccacatcaa	aaaaagtagt	ttcaggagaa	aaacattaat	540
accagttgaa	taaaaataag	ggcataaaaag	ctatgagaga	gatagctctg	ccatctgtct	600
ctgggctaaa	aatcaaggct	aactattgcc	tttggcacca	caagggttcaa	ggtccatggt	660
tttattagaa	aagtccccac	aaaaaaatta	aacccccctc	accca		706

<210> 165

<211> 427

<212> DNA

<213> Homo sapien

<400> 165

tyywgggcaa	ttaggcagga	gaaggaaata	aagggtatct	aattaggaaa	agaggaagtc	60
aaattgtccc	tgtttcaga	cgacatgatt	gtatatctag	aaaaccccat	tgtctcagcc	120
caaaatctcc	ttaagctgat	aagcaacttc	agcaamgtct	caggatacaa	aatcaatgta	180
caaaaatcac	aagcattctt	atacaccaat	aacagacaaa	cagagagcca	aatcatgag	240
tgaactccca	ttcacaactg	cttcaaagag	aataaaatac	ctaggaatcc	aacttacaag	300
ggatgtgaag	gacctcttca	aggagaacta	caaaccactg	ctcaaggaaa	taaaagagga	360
tacaaacaaa	tggaagaaca	ttccatgctc	atgggtagga	agaatcaata	tggtgaaaat	420
ggaaaaa						427

<210> 166

<211> 124

<212> DNA

<213> Homo sapien

<400> 166

accatgtttt	cgttgtgtgt	gagcagggaa	gggaactttc	ctgccttatt	taaacctggg	60
ccgaggattc	gtggaatctg	cttgatcaga	gactctgagg	ccaaaaacgc	atcatacttc	120
ttgg						124

<210> 167

<211> 232

<212> DNA

<213> Homo sapien

<400> 167

tctgcatagc	aaatatgatt	taagaattta	acatcattat	ttgatcacia	gcgtaaatat	60
gtcaccataa	ataaatgtaa	attcattgta	caaaaattcc	caacaactct	taatacaaat	120
atggtacatt	tgacagtttc	tgaaacagat	tattttttaaa	acttttttaa	acctaagctt	180
tatttttttc	ctggttatta	gacacacaca	aaaaaaataa	aaagaggctg	gg	232

<210> 168

<211> 677

<212> DNA

<213> Homo sapien

<400> 168

tttcacaatt	aaccaacatg	caaaaattct	cagactaaac	actgagaaat	tcttcataca	60
------------	------------	------------	------------	------------	------------	----

atgcatttgc	caccttattg	cattttttaa	atctttattc	tatagtgaat	tggtattccc	120
aatctgccta	agcaaaggca	tgcccttcta	acaagatttg	cttagagcag	aggtgataga	180
aggaagaatc	cgaagaccct	ctggcatggc	aatctgggag	cagcacattg	ttgatggagt	240
ccaagtgagc	acatttcaca	caattcattt	agtgacaagt	gggcttgctc	ccttttcac	300
caggaaaaaa	actactcaca	gaccactgcc	cagaatctgg	aataagaacc	ctcattttaa	360
ggtattcttc	ccaacaaata	aatatctaaa	tattgaaagg	gggcatatca	gaaaacttaa	420
aagacacaat	aaccaaaacc	aaaaccctct	tcaaaacaag	taagcaatgt	ctgtatttag	480
ttcactctaa	aacattctta	gcttttcttg	cagtttgctc	ctaaaagatt	tgattgggca	540
caagaggaa	gaaattatta	ataaaataaa	agcttatttt	tgtttttgct	gtggataatc	600
ggtacaaaac	gtttccagat	ctgagactta	aatggatctt	ttaaggtgaa	aaggagaatg	660
ccaggttcta	ctgaaat					677

<210> 169

<211> 635

<212> DNA

<213> Homo sapien

<400> 169

ttaagaagac	tgggcattta	tactctctct	tgctagtcag	cctggagcaa	gcttggagca	60
gacgcacatt	ttgtactgg	cacatattct	tagacgacca	attatagttt	atggagtaaa	120
atattacaag	agtttccggg	gagaaacttt	aggatatact	cggtttcaag	gtgtttatct	180
gcctttgttg	tgggaacaga	gtttttgttg	gaaaagtccg	attgctctgg	gttatcacgag	240
gggccacttc	tctgcttttg	ttgccatgga	aaatgatggc	tatggcaacc	gaggtgctgg	300
tgctaattct	aataccgatg	atgatgtcac	catcacattt	ttgcctctgg	ttgacagtga	360
aaggaagcta	ctccatgtgc	acttcccttc	tgctcaggag	ctaggtaatg	aggaacagca	420
agaaaaactg	ctcagggagt	ggctggactg	ctgtgtgacg	gaggggggag	ttctgggttc	480
catgcagaaa	gagttctcgg	cgggcgaaat	cacccctggg	tcactcacat	ggtacaaaaa	540
tggttttgac	cgcgtaccga	cagatccggc	cgggtacatc	cctgtctgat	ggagaggaag	600
atgaggatga	tgaagatgaa	tgaaaaaaaaa	aaaaa			635

<210> 170

<211> 533

<212> DNA

<213> Homo sapien

<400> 170

ctgtgatctc	acaagtgtga	aaaatcttat	gaatgtaaaa	tgtgtggaga	ttcttctttg	60
tttttagctt	ccactttggg	aacatgtcaa	agcacacatt	gagaagtccc	atgagtgaaa	120
gagatgttgg	aaagcccttg	aacttggtcg	ttaggaaaca	tccacactga	agaggaacct	180
gactgtatgg	aaggtcaaaa	aggctgtatt	aatttacatg	caaaaagtca	cactagagga	240
atgccatata	agaatgcttt	tggtaaatat	acatgtttta	aagaggttat	atatcattaa	300
taaaaatatc	tagctggctc	gaagaccctg	agttatctca	attgttcacg	gttacagatg	360
gaactcttta	ttattgagga	gttccactct	ttcccccat	tgtcactact	acacttccct	420
agtcttttaa	acaatttttag	gctgggtgca	gtggctcatt	cctgtaatcc	cagcactttg	480
aaaggccgaa	gcgagtggat	catttgaggt	caggagttcg	agaccagcct	gga	533

<210> 171

<211> 568

<212> DNA

<213> Homo sapien

<400> 171

cccttgsc	aa	actttccctt	aagtattgca	ctacaagtct	aagacacttt	tcactcaaag	60
ttccttcctt	ccttacctct	cttttaactt	ggagtcagac	tttcatcagt	ctgacaactt		120
ctcctgtct	ccttcctttt	cccccttca	caagcatttc	acctaacaaa	tttcttatgt		180
gcttaatccc	ctcttagaag	cagatgccaa	gatgggatta	agcacataag	aggtcctgga		240
ctaatacaat	gacaaaggct	ccccctgaag	catcacacta	aaaggaaaaa	aaaaaaaaaa		300
acctagccat	tttacattaa	ctatttctaa	aatatagtat	ttgcttcctt	atttgctaaa		360
acaaaatata	ctaaacatga	ctattccaaa	aatctgtagg	gtactaagaa	tatgaagaga		420
ttcactctac	ttcaggggat	ggagttgtag	tagaaaaggc	tttgtggagg	gaggggtgtg		480
tttgaaatgt	actttaaaag	ccatcctcaa	agcctcgagg	gctataacctg	gcctggtgat		540
tatccaagga	cagtccattc	aaacaggg					568

<210> 172

<211> 167

<212> DNA

<213> Homo sapien

<400> 172

ccatttacag	gaatcagcca	cttcagttca	gacagcttta	ttaaaccgcc	tggagcgaat	60
tttcgaagca	tgttttcctt	ccatacttgt	ccctgatgct	gaagaggaag	ttacttcctt	120
gaggcacttg	ctggaaacaa	gcactttgcc	aataaaaacg	agagagg		167

<210> 173

<211> 391

<212> DNA

<213> Homo sapien

<400> 173

cctcccaaag	tgctgggatt	acaggcatga	mccmccmcgc	cctgatgata	gacacgtttt	60
taacttctaa	aaatatatga	tcatgattgt	gtctgtggag	acttgccacat	atactaaatt	120
ttaamcaatt	agagatat	gttcattacc	acattttggg	agtcattatt	tcctctatga	180
agagagaaaag	gaatttgata	caagttcaca	ggggcttcca	gtagattgag	acttttat	240
ctagctgagc	tgctgatgta	tgaatttttt	ttgktattat	gactttcata	tgtattaaaa	300
ataaaatgaa	aaaacaagg	attaggtgag	gaacctatac	gtctctaata	tgcaaaatac	360
cacagaaata	atgactgktg	ggaaaattag	g			391

<210> 174

<211> 474

<212> DNA

<213> Homo sapien

<400> 174

gaactcagag	agaggattgt	cacccttggc	atctgagctg	acactataag	gacaatgagg	60
agtctccttg	gggatagatg	gggagatgga	aggacgatgc	ctgtcctacg	gggtcctgga	120
aggttagggg	tacacactgt	gagctgccac	aggctcaaca	gtacggatag	gggggtgctgg	180
aaccagccag	ggctctgctc	accaagctat	gtgccccatg	cagaggaagg	ggtagtggca	240
cactgaacca	cccagccaca	aggctatctc	cccatagagg	gcacctttta	aaaaattatc	300
cttacagggg	aagacgggga	ggaaggatga	actgtgtgcg	gtgatgttgc	agtgagtgtg	360
agtttgtgtc	cgtccgcttg	tatgagggcc	taccttttac	taactagccc	ccaactttca	420
ttatctcccc	tttttctgtc	tacccttctg	ccttttttaa	gtggcttgca	atcc	474

<210> 175
 <211> 655
 <212> DNA
 <213> Homo sapien

<400> 175
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 gcaacatgta cccacaaatgttccaggaggtaaataaaaa atacaattcagcctcttcta 120
 aaccatcctt gttgatatctctgtacttccgaaagttaa ttcgttatttggactccata 180
 atttttccta ttaattcaccctatgtccaa ctccaacagt gaaaaaaatttatttaattct 240
 ttgcaataag cctataggcaggcagcatta tctcagtcgcagataagc taaggctcag 300
 agaagcttgt atactgtcac ttaggttagta attgcaagagctggcattca gaccagact 360
 gtgggactcc tactccattctctttcccc ccactaggctgtccttaaa atacaatgga 420
 tgcttgatga acgcttgtgg gaatcctgggtggacacagt tctttttcgg ccaaagcac 480
 cttgacgact tgtgaagaat taatctggaa aacttaacct attataaaa acgtgttatt 540
 aagggcaggt tattcccacc ccttttacca aagaaacccg ccctgacctt tttttactgg 600
 gggttggctct tgggcatttt caacaagggg ggaacagttt aaaaattccc ccctt 655

<210> 176
 <211> 660
 <212> DNA
 <213> Homo sapien

<400> 176
 cctgggtcaaa gtggggcatta ccattcaagc attactagac atcaccgtaa cgaaggctct 60
 gttcacatga aactacccttctccattgg gggctcagac tctgctctca tccaggatcc 120
 tgaactctgc tccaggcacc tgttcaacctctctccac ccactgcctg tcaattcact 180
 gactccagtt acattgaaac aattttcagt ctaagggagg attttctacc tttcagagct 240
 gacctccgac ttaagactt gacaggtatt tatcttgaaa ccagagaggg agctggagga 300
 aaaaaaaaact gagcaagcac atcaatgcct tttccacct tcttcacct tccacactc 360
 accgactgcc attaccaaaa cgccaagcac aaccggtttg gaacaagacg cattccgttt 420
 taattaaaac caactcatta tgtatttttag tgggggggaa ggggggcaca atcagggttt 480
 tcaccaccaa attttccaca cggttttctga acaccattgc cttttaaaaa actatttttc 540
 cacctccaaa atattttatt aaattttatt tattacggag gtggtattct tcttttggga 600
 gccaaattgg gaaatttagg gaaccttttt tattaccggg ttttttgggc gggtaaacc 660

<210> 177
 <211> 459
 <212> DNA
 <213> Homo sapien

<400> 177
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 atgaaatgaw tttttaattc aagaamcatt cagaamcata ggaattaaaa cttagagaaa 120
 tgatctaatt tcctgttca cacaaacttt actctttaat ctgatgattg gatattttat 180
 tttagtgaat catcatcttg ttagctaact ttaaaaaatg gatgtagaat gattaaagg 240
 tggtatgatt tttttttaat gtatcagytt gaacctagaa tattgaatta aaatgctgkc 300
 tcagtatttt aaaagcaaaa aagggaatgg agggaaattg catcttagac catttttata 360
 tgcagtgtac aatttgctgg gctagaaatg agataaagat tatttttttt tgktcatgyc 420
 ttgkactttt ctattaaaat catttttacga aaaaaaaaaa 459

<210> 178
 <211> 720
 <212> DNA
 <213> Homo sapien

<400> 178
 ctgcaagctc ccactccttc catttatctt aacgcccagg ctgacttcta agctgctttt 60
 cactttccta cctccactgc attttcgccc ctgataattt ttgtaagctt acctaagcct 120
 cccttctttt gagatccctt tcttaaaagg gtccattcta ttaaccctac cccatatcca 180
 gttactttta ctacctgtcg atctatcgct accttggtcca attcatggga attacaggtt 240
 gcactgggac aagagtaaaa tgatccaaca aacataatgt tgcatttaaa aaaataagct 300
 aaaagatact gatgactttt tataactaca acatattcgt ttgtgaataa gaacatatat 360
 agtaaaaaga tgaaaatgtg aacagggttg ctatttccta aatttatggc agaaggttgt 420
 tctggagagg atgggaagaa aaaatgaagg ctggcagtga tgggtgggga aatgcaacct 480
 ccaaaattat ctatctatat atttttatta aaaacaccca cagtaattat ggcaaagtgt 540
 aatggtttgt ttgttctaag gttttggata catttaagat ctcttgcttt ctgggtacca 600
 tttcttttct tttcttttct ttttttttca aattaattcc aaaagactta tatctgctac 660
 atgaagaacg aagcaagtgc agctctcttg gctgaaatgt tcaaagtctt gagggcaagg 720

<210> 179
 <211> 427
 <212> DNA
 <213> Homo sapien

<400> 179
 ctgtgaatct gtctggttct gaacttatct tttagttatt ggcaatcttt gtattactat 60
 ttcaatctct tctggtttta atctaggagg gttgtatatt tccaggaatt tatccatctc 120
 ttgtaagttt tctagtttat gcacataaac gtgttcatag tagccttgaa taatcttttg 180
 tatttctgtg atatcagttg taatatctcc catttcattt ctaattgagc ttatttgaaa 240
 cttctctctt ctgtggttaa cttgctaata gtctatcagt tttatttata ttttcaaaga 300
 accagctttt tgtttcattt atcttttgta ttgtttttgt ttgtctcaat ttcatttagt 360
 tctgctctga tcttcgttat ttcttttctt ctctgggtt tgggtttaga ttgttcttgg 420
 tttctct 427

<210> 180
 <211> 728
 <212> DNA
 <213> Homo sapien

<400> 180
 caaacacaaa agtcactgtg tgtgtgatgc ttctccaatt ccactcatcc tggctgccat 60
 tcatgcaacta gtgcatgtat gcattttttac attttttaaa ttacaaaaat caacctatta 120
 taactgctta gatatatatg aagtaaaaaat gaaagttctc cctttacatg acccatcccc 180
 catcattttc ctctttatct tatactgtca gcattcccag cttgtagcac agtgtctggc 240
 aatagtaaat cctcaaaaaa tgatcaatga ataatttaaat aatgattaat aaataaatta 300
 atgatgatgg tgaagataaa ttttagcatt tattgaacgc taactacaaa ccagggagtg 360
 tggtaaatat tttataaaaa tcaatgaatg agctaaaatg ccattctatt attttttttg 420
 atacggttta atattttact cataaatatg cttaaagaat attataatta tatgacttag 480
 aatggtaaaa caatatgtac agcagtatcc tatttttttag aataaaaaata taaatatgtg 540
 ctcacatatg tggttggggc atgcctagaa acccgattag aacgggattt tttcttacca 600
 ccattttttt tacctgggaa aaatatggga aaattttatt tcccttcttt ttggttctaa 660

aatttatata caggagccta tttggctttg gataaatcat tttaaaaaag gtggtttaaa 720
 aaaaaaaa 728

<210> 181
 <211> 546
 <212> DNA
 <213> Homo sapien

<400> 181
 acaatccttt ggaagacact actgggcttt ggggtgctgct ttttaataat tgagttatatt 60
 tgagcttgcc aagtaggatac tattgcctgg actaaaattt atttcctaatt cttctgatga 120
 ccaagaaagg aaaaattaag tttgcagatg ggagatgaaa tatagccagc gaatatgcat 180
 actggttctg aatgaaagga attaaccttt cagtcaagaa acagtctgca tgccgtaaat 240
 tgaatttttc ctgcaactgg aatgattggg taattccttt tgaacactgg cctttctccc 300
 caagaacact aatgaattgc taatattttt taaagaaaac tgggttttta attaggttaag 360
 ctccacttcc tcttattttt taatccctaa agaaaactgt taaaaggga tggatctatc 420
 acgccttttc ttttaaaacc acctttttta aaaaggattt ttccaacccc caatttgctc 480
 ttatttttaa attttgaacg ccaaaagaag ggaaataaaa atttttccct taattttacc 540
 ccctta 546

<210> 182
 <211> 333
 <212> DNA
 <213> Homo sapien

<400> 182
 ggccactctg actgggtctg ctaattcaca tgctctttgt gacatacggc tctaagaggc 60
 agaggctgga agagaagtat gtgggttggt ggatcaagat acccaagttt cagtcttgac 120
 actgctatta cttagtcagg tgaccactgt aacttcatct tgattgagcc tcagatgtct 180
 cacctgcaaa atggagtgtg aaatttgcta tgggtgggtg tcacacggat taaatgaaat 240
 aatgcctggt aagcgcctat ccagcactta ataagatggc cactgcatca taatgctttg 300
 ggcacaagta acacaacatc caacccaaag ggg 333

<210> 183
 <211> 393
 <212> DNA
 <213> Homo sapien

<400> 183
 ctgaattttct tgggctttat gtggcagtggt ggtaaaaata tatgatcaga tttcactggt 60
 aagaaaattc tttcagcaat acatgtagag tcaagtttct tgcattggata actgaacatg 120
 tgggttatga gattttaaaa aatgtctcgt gacaaaacttt acggaaatgc aacaatctgg 180
 acatctagtt ttgtctgaga gtggcgtgga tatgaagaac tgtgctgttg gtgctgatgc 240
 cacactaagt tttggcagtc acactcttgg ttcttcatat ttgaggagat gggatggtga 300
 ggaggcctgt tggctttatt ttattacgtg ccaccatcta gaatacagat tcttgatat 360
 ttcattctca caaaggtgaa gctgcaaaact cag 393

<210> 184
 <211> 700
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(700)
 <223> n = A,T,C or G

<400> 184
 ccaggscawt gaggaaaagr gaaagaatwt arrggstwt caaataggaa aaraggaagt 60
 ccaaattggt ccntgttkg ccagataacc atgattgkgk atttagaaam ccccatgwt 120
 tcagcccaa atctccttaa gctgattaag camcttcagt aaaktctcag gataaaaaat 180
 caatgtgcaa aawtcacaag crttcctatm cgamcaatam cagmcaaaca gagccaawtc 240
 atgagtgrac tcttattcac aattgctagt aagagaagaa aatmcctagg aatcaactt 300
 mcaagggatg tgaaggwtct cttcaaagaa gaactacaar ccrctgctca aggaaataag 360
 agagmcmca agtaaatggg aaaagcattc tatgctcatg gataggaaga atcaatccc 420
 tgaaaatgk gatactgcc aaaataattt atagattcaa tgctatcccc atcaagctac 480
 cattgacttt cttcmcgga ttnggaaaaa tctactttac acttyatagg graccaaaaa 540
 agaagcccw gtagccaaga caatcctagg caaaaaagac caamcctgga ggcacacag 600
 tmcytgactt cmaactatwc tacciaaggny tmcrgkgmcc aaaacagcac ggkacntggt 660
 mccaaaccrg acwtwtwgac cmmcagacac agaacmgagg 700

<210> 185
 <211> 192
 <212> DNA
 <213> Homo sapien

<400> 185
 ccagycctttc ttttaagtaa gcgctttttc aagctcattg tagctacaaa gtcaataaat 60
 tggctcttgt tatttttacc tgaaaaggct gttaaagggt aaaatgacaa actcaaatc 120
 aaagggattg gaggatttg tgtttatgat ttctcagaac aacaatctag agaccaccag 180
 ggtgggtttc ag 192

<210> 186
 <211> 688
 <212> DNA
 <213> Homo sapien

<400> 186
 gtgctggaat tcgcccttag cgtggctcgcg gccgagggtg gatatttctt ctggatagat 60
 ttcagatagg tagttccctc aaataagatt atatgggttt gcattttcaa ggcagagttg 120
 tatacttcct gctctttatt taaataaaaa aacttgaaaa tctgttctgc ccagtattgt 180
 aagcgcctcag gtacaaatat gaatgaaaca atctctgcct aagtaacaca agtatagga 240
 caagattctc agtaaaattc tcacgtgaaa tttgtaactc actagacact atcaggagat 300
 caataattat gtaattaaaa aaaataatta cctgccaaac tgggttcttc tttggcactt 360
 ctgcttggtt ttaagacaat tctcacatag aagcttatta ttccccatta gtcattccat 420
 agatgtaaaa ctggtagaaa caggacttga attgaacatt ctttacaagt aagttatata 480
 gcttctgaaa aaagggcttg aaaaagcatt tttggggact ataagaacct tcaaatgctt 540
 tcccctctta acaaacctta aaattatttt gaaaataatt taagggggct gattttctct 600
 tgtcaaaatc ttgaaccca cttaccaggt ggttggtcaa accaaagtcc aaaaaaagc 660
 ttctggcctt tcctttatcc cacttgca 688

<210> 187

<211> 779
 <212> DNA
 <213> Homo sapien

<400> 187
 gcaaaaaaca gatacatttt cagtgtttta aaatgaacaa gtatggaaag gcttatacag 60
 taactgaaaa gtctcctttg ggaagccaag gtgggaggat tgcttgaggt caggagttca 120
 agaccagccc aagcaacatg gcgagacccc atctctacaa aaaattaaaa aatcagccag 180
 gcatggcgga cataacttgta gtagtaacta catgggagggc tgaggcggga ggatcacttg 240
 agtccgagag tttgaggctg cagtgagccg caacgcgccc tgtactccag cctgggcaac 300
 agagcaagat gctgctctaa aagaaatttt cttttaaaga aaaaagtctc cctcatagcc 360
 tgttctacaa aagtcctatt tcttcccaca aaaagcctct ggtacctggt gttagtctt 420
 ggggtggaag attactttta aaaatagaac tattttttta gtatatcttt tagggaactt 480
 tagttcccga agcttttagga aatgggatct tgaaaacaaa agggatttca atacctatga 540
 caatgcttaa agaattattg gggcatttat ttttcaatgg aggggccaca aatctttgga 600
 aacccttggc caattaccag aagccacttt aatttttgac cgaaaatgtt tttaaaaatt 660
 ggcttttgga aaaactgtct ctttcccca aaatgaaaac cttgaaaaaa aggggaattt 720
 ttaaggttgc cccctcatta aattttaacc cctctgaaag aaaaccctct tgtgacag 779

<210> 188
 <211> 394
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(394)
 <223> n = A,T,C or G

<400> 188
 ggcgamgtct ggyccaccatc atgcccttta atcaactcac acctgtttta agagtgtttc 60
 tgatttgacc ttcattccctt agtttactgg cgtaaaaaaa agtctcagca attttcat 120
 tttctcgtgg gtctcattat caaaccttta cttatttcgg catatttcct ctgggcttct 180
 tctagtttct gccttacaag caatgctgtt ctgtaaat 240
 tcacctttag agatggagga tgggaaggatt ggyaccagaa gagggctaag atacgttytc 300
 tgtcttngag ctgaaagcac agyctactct ccttcgtttt gycgatgaga aaagttagg 360
 ccagaaggga ggtgacatgt ttagagtcac ccag 394

<210> 189
 <211> 681
 <212> DNA
 <213> Homo sapien

<400> 189
 aagttctgac tttggtctat aaaacagggt tattggctgt ggctgcactc aatatctaaa 60
 aagttattag gaagtgcctc gttattgtca ttaaagatat ctaaaatagg tagaccaaag 120
 gttgttgaga aacacatatt atggactgag ttctgtttct tctgctgtgg cgcacctaa 180
 ctcaagcctt ccttctctcc ctccccttct ggccggcatg gtatctgagc tcacagacag 240
 acaaggcatg ttagaatcat cagatcatga gcaccgtgct gggatttagc cctctccaaa 300
 gtcaattctt acagtccata ctttgcttaa atcctcagtt gttgaggtct gctctgctgt 360
 cagtaatccc agctataaat ttcccccaaa tgtggggcct agataaagta gaagggtgat 420

ggactcagct	tattttcatg	ggatgacagg	aactggaaa	agaaagggca	ttgaaaataa	480
aaagtatttc	cagaatagca	ttaacctct	tactgttcaa	gaattaagaa	agcctactta	540
gaaatgaggg	ccttgagaat	gatacccaaa	tattggctct	tctaccaaaa	aatggccttt	600
ccaaatatct	gctttcctgt	tcccccaattg	gctttttaag	tagaattaag	ttacctaaaa	660
ctttacctga	aggggtggtt	t				681

<210> 190

<211> 839

<212> DNA

<213> Homo sapien

<400> 190

caaatacatg	atttccattg	gcatagactc	ttctatagtc	tctcaggcac	accttatgac	60
taataagaac	actgtcttct	agatataagc	caagttttag	gagttatctt	tgtagtctt	120
gtgttgagag	tatgggtctt	ccctgtgcaa	agacttgatt	agcaaatact	atttgaaacg	180
atcccaaatt	catagtgcag	ttgaccaccc	ttctgatcaa	ggggatctct	gtatatccca	240
tgaaagcttc	ataggtctca	ccctagatta	agtgtctcac	ttctcaagac	agtgaacaga	300
tggaagactt	ttgtagttaa	cattatacaa	ctgtgccctg	tgtgttttat	tatacaacca	360
gagaactgag	gcactggcct	tacctgtcag	ctacgccagg	gggtgtgacgt	catctttctg	420
acttgatcac	acatgccaca	ttgcttaata	tttcaagctt	agactgaaat	aatcctgtgg	480
taaaaaattt	ttgggggggt	ggggaggtaa	agaacaagg	gggggaactt	ggaatatttt	540
tattcattaa	tcatatttcc	cgaattgtat	tttattttga	aatgaccata	agggacttaa	600
atagctattg	tggttaaatt	aaatggaccc	aaatggaggt	aagtaaacct	aatgggacaa	660
atgaataaaa	ggtttatgac	tgggagcatt	tacctatgaa	cctccttaga	agctatttaa	720
cctttctttt	ggaaagccct	gaaggctggg	aacttaaat	ttaaagacag	tacctatttc	780
cagaatcgct	tccaaatggc	catgttttaa	agggccaaca	ttttgggatg	gccctgccc	839

<210> 191

<211> 697

<212> DNA

<213> Homo sapien

<400> 191

ccatcctgaa	tactgatttt	ctaattggaac	tctatttcaat	ggcgattgta	aaaccctgag	60
gctccgttac	tattatggag	catactttca	tctcattctc	ggctattggg	caatatgtat	120
ctcataagat	tttatcacat	ttcacagatg	aactgttaat	tgattccatg	ggtacgatta	180
ggcgagatcc	aagctggagc	tgcagctctg	agtcccataa	attctttgtg	cttctgtaaa	240
gaataaatct	gtttttaaatg	caaattaaaa	ctactggcag	ggaatttttg	ctcccagtta	300
ttaaaagact	ggaaatgtgt	aagtggagaa	aggcaataac	tgcagtaatc	tcttaccgga	360
ctctattata	attccaaaca	tacataatgg	tgagaaaaaac	cgggaaggga	agaatgtggc	420
aatgtccact	ctttgccccca	aacataaccc	tttaatttcca	tggcgggccc	aaacactggt	480
aaaaacccaa	atggtaccct	ctatagcatg	caacttttat	ttcactccaa	acgaaaaatt	540
attttgacta	tggcttggga	aatccattag	tagaagaagt	tttataacct	ataggaaccc	600
ggccatttca	tttctaccaa	atcacaggaa	ttttagaatg	ggcaagggaat	ttacaggaag	660
acttgcccaa	ttatcttttt	ttgggggact	aaaccaa			697

<210> 192

<211> 687

<212> DNA

<213> Homo sapien

<400> 192

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ctggttacta tagcttttga gtataattta aagtcaggta atgtgattct tccagttttg      60
ttattttctgc ttaggatagc tttggctatt ctggatcggt tgtgggtcca tataaatttt      120
aggatagttt tttgctattt ctgtgaagag tgtcattggt actttgatag ggattgcatt      180
gaatctgaag attgcttttg gtatgatgaa ctttttaaca atattgattc ttccgattaa      240
tgaacatgga atgtttttcc tttatttggc gctctcttta atttccttca tcagtgggtt      300
ataggtttca ttatagagat ctttccttct tttgggtaat tcctacgtat ttaatttatg      360
tatcgctatt gctaaatgga atgacttttt aaatttcttt ttcacattgc tcctgggtgg      420
atattaaaag ctactgatgg atgggtgattt tggattctgc cactttactg gaattgggtg      480
atcagttcta atcgttttct tatgcacccc tttacgggtt ctacatgtaa gaatatatca      540
ccttcaacaa cggataattt gacttcttcc ccatccaatt gggaggccct ttatatcttc      600
tcttggcctg aaggctctac ttaaaacttc ttatcccttt gttggaataa cagtggggac      660
aatggacat cccttgtcat ggtccca                                     687

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<210> 193

<211> 493

<212> DNA

<213> Homo sapien

<400> 193

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ctgctaaaaat gatgttgcta aagcattcct ttttcttttg attaaacttc atgtttacaa      60
aaaaattaat tctagcagaa taacgaatgg ttttgtttct tagttctctg ctgaatgaac      120
agtttttgcca attatcttca tagagtagtg atataatgaa tgcaacctca aatgcaaacc      180
aaccaattca cagtccatac cccaatcact tccttcatca gcctcaaaaa tcgctaagtg      240
aaccagtaga atggttttgg agcagtaata ggaaagcaaa tagaaagtca agggggactt      300
tcaacgccaa caagaccaat tcagatcctg atctgactgg tttctaatac aatctctttc      360
cagagtaatg gagcatgagt ctgccacaca gaactttaga gagagtcctt tatttcaaag      420
actgtaaagt tggagaagaatt cattcatctg caaagtcaaa tgtcaaaagt tgtgcttccc      480
actcctcatc agg                                     493

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<210> 194

<211> 424

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(424)

<223> n = A,T,C or G

<400> 194

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cyagggcant ttagcangas aaggaaatan mggggattca attaggggaac wraggakarw      60
caagttgtcc stgtmtgcag atgmsgtgat tgtatatcta gamcacccca ttgtctcagc      120
ccaaaatctc cytaagtiga taagcawctt cagcarmgtc tcasgatscr acmtcwatns      180
gcraaantca cmwgcatctt tatacaccaa tawcagacaa acagagagcc aaatcatgag      240
tgaactccca ttcacaattg ctacnmaaga gaataaaata cctaggaatc caacatacaa      300
gggatgtgaa ggacctcttc aaggagaact acmaaccact gctcaaggaa ataaaagagg      360
atmcaamcaa atggaagaac attccatgct catgggtagg aagaatcaat atccgkgaaa      420
atgg                                     424

```

<210> 195

<211> 229
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(229)
 <223> n = A,T,C or G

<400> 195
 tgaacaccct tnggaaggaa cctgctcgna tgtannanaa anggaccgga cagtctgcta 60
 aaatcgccct ctttagacgc ggcgcgccgg ggcagagttt ttctctggg ctttgacctg 120
 tatttggttt aatgggttttgc tctaatctc ttcaatcaat aaaattgtgc gtatttaact 180
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 229

<210> 196
 <211> 557
 <212> DNA
 <213> Homo sapien

<400> 196
 gcggtggctc atgcctgtaa tcccaccact ttggggaggct gaggtgggca gatcacttca 60
 agttgagagt ttgagaccag cctgggcaac ataacaaagt gagatcttat ctctacaaaa 120
 aaattaaaca aacaaaaaaa caaatcaaca ttcatattgca gggctctttg gtcttcttaa 180
 agaacaaaca tatgaaataa ataagctgat tcttaaagat aacaaatata atgagctttc 240
 tcaactgtaa aagcatctct aagttgttct atcaatgcat atccactcca tgaactaacc 300
 tgaagaaagt gttgaccatt ctacccaatt aactgtaaac taagattgct ttaatggttt 360
 gcctaaattt gaggaccatt aaatttttgc tttttatcca aattcattct cccttcttca 420
 aattaaatag ttttgtaga aatcggataa gcaagatgta ctttttagaa agggcaatag 480
 aatcctacaa catgctagaa tttgaaatgt ttttttaaat cagtmmtttc tctatgctag 540
 taactaagaa aattata 557

<210> 197
 <211> 624
 <212> DNA
 <213> Homo sapien

<400> 197
 ttttactacc tatattttaa atgatccctg acgcccctca agacaaatat attaatTTTT 60
 ttactttgtg ggatagagat cagaaaaaga gtagagatga aaatactgga gaaacaatgc 120
 aggagatatt tatgagggtga gaatgtcaag aaacttgtaa agggagaata ctataatgac 180
 ccctgaagag agagcttttag accagttgag tatttagaggt tgccacgtgg ctattcatcc 240
 actaataaat acaagaaatt actaaaatgg aagccactgg aaatatgttt tgaggaaggt 300
 gagaatgtgg acctattata aatgggtgaa tatgatttct ttctcattaa gttcataaat 360
 aactttcaga catgtaacag tttatgaagt gtgccgtagt catttagtat aagttttata 420
 caaaaaagtg tttttactaa gactgtcaca gggtcttttg tgaatcttgt ttgtttttcc 480
 tcattgtaaa tactgcaata gaacatttgt gtcttaacat aaggcaataa atgaccttaa 540
 gaaccttcac ttttatatag aaagtggagg aaaagttggc agagtaattt gttgattata 600
 gataaaagct cttgtagaaa ttgg 624

<210> 198

<211> 175
 <212> DNA
 <213> Homo sapien

<400> 198
 tttttttttt tttttttttt ctaacactta tgcatttatt ttcattgtgta agaagaaaaa 60
 cgtaactagc acgtgaacat gactgcatgg atacacggct cagcacgagg ctaaagtcag 120
 aagtgagtga aagcaaaacc gcatgttgat ttaagtgaat taacagaaca gaaaa 175

<210> 199
 <211> 871
 <212> DNA
 <213> Homo sapien

<400> 199
 ctgttgatca atgatgagct cccaagagta accagcctct atatatgcag catcactggt 60
 ttctcaggaa aagcatcacc attgttcac ttgctgcaaa atgtatgcac aagtatcttt 120
 ttatttttaa aaaagccctg acattttatg actgctgctt ttctaagata ttttcaaata 180
 tacagtccat acggttcaga cacaatggac tggggataga gacggctata gtgccgataa 240
 tggagaaact agccagagct tcagatattt gttttccagg acatctcaat aattgggtac 300
 acctcacaat atgtgagact tgacgtcgag tggcacggca tactctggcg caggcacttg 360
 ataaagactg tgtttgcaaa tacttagcct gcacttcaag ataccaggca tctaagcacg 420
 tcccagatgg tgacagttaa tcttcaaaaa accctatgtg gaagtattat cattgtcctc 480
 attttacaga tgaggaaaaa gagacacagg gatgtcaata tcttcctcaa ggtcacacag 540
 caagtaagtg atggaacagt ggctcagcca tgaagctatt gctgttaacc actaggttga 600
 tttgccttca ttaatttctt cctaaaaactg cacatttccc gttagtccct ctttttggtc 660
 tgtcgtttga ctcttggcta ctgcttagag gaagattcat tctattattt tctaacttag 720
 taaatatgtg caactccttg gggacatgac caggcaaaag ctggatacag aaatgtatgc 780
 ccaaacacca tcccaagtta cccctaacag gtcttttctg gaccctgttt gtaagggggg 840
 tatatttgga aaaattttta aaattttctg g 871

<210> 200
 <211> 737
 <212> DNA
 <213> Homo sapien

<400> 200
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 ctgctattgc tgaactatcc tttgtcttga gcgataaaag agaagtaaaa tactaaagaa 120
 ctgaactgtc catttctgga ccatgagtaa agatgctggc tgtcaaactt cctgttcata 180
 cattagttta tttatagagt gtactctcta tgaagggtat tgactgataa tgttactttg 240
 acttcagata gcttgaggtt taatggagga agaagacaaa catgcaaata actagggtcaa 300
 tgaggcatcc tttgtgttcc attggaagct aggctgcttt gtaaccttgt taatttctgt 360
 ggttttgagg tgcattcatt agcaaataca cccctgttcc ttatccattc tctgcttttt 420
 tctttatttg gcatattgatg acattttttc atgtggggaa attgagtcag gtgagggtgga 480
 aagaaaataa ggacacgaca ctaaattctt tgatgttttt ccttaaaaaa ttgtttttca 540
 agtgctccat aaagggttgt gaagttttaa gagccatagg acttggttta ttgtgaaaga 600
 gtgtctctag ggggccagggt taaaccattt caaggactct ccttctctca tctcccttgt 660
 tcccccagg gtggcgaccc ccaaaaagca caaagcctcc ctttcttcat gggaagggta 720
 aggaacggaa ggaaccc 737

<210> 201
 <211> 493
 <212> DNA
 <213> Homo sapien

<400> 201
 tctagaaatg cagcttttat ttattacccc atttctttca agtccttgga aaataacata 60
 ttaagggtag aagaaattaa cacatgatgg aaaagtcatt gtgacgcaa tgaatttcac 120
 tgagtataaa ctcatctact tcaaatttat ttataacac aacctaagat actcaagata 180
 attatttaat ggtagctct taagttgaat tgggtctacat aatgcgtggg aagaaaacca 240
 gatttttagc cttcttgcca aatccagacc tctggttgat ttttcttga cagaagatgc 300
 aagttatttt ccaatttcac aattaaatgt atttaacatg aacattattt tgctttaaaa 360
 actataaaca ttgtaggaga attatagcca gtcttcagtt ataaccactc caccctcctc 420
 actttctctc tctctctctc tttttttttt gctatgggat ttaatgggaa aaatatgtaa 480
 aaactgtcac taa 493

<210> 202
 <211> 283
 <212> DNA
 <213> Homo sapien

<400> 202
 cctttttatc tcagtgcac cgtccgggga cgcaggtggt ggtgactcaa ggctagcctc 60
 aaagggcagc cccacctcct catcctggac cacagagacc acctgcttgg cgcgccgtcg 120
 cttttccgag aggggtggctg actccggggt gctggggctg gggctgccgc ccccgccgct 180
 gttgctgtac tctcgcgcc agtcgatggg ggctgccctc ggacagcagg tgcaggttgg 240
 gggcactgtt acgcaagacc atgctgcccc gagaggtaga tct 283

<210> 203
 <211> 713
 <212> DNA
 <213> Homo sapien

<400> 203
 ctgcttttgc gcaaggtgcc actggacgag cgcctcgtct tctcggggaa cctcttccag 60
 caccaggagg acagcaagaa gtggagaaac cgcttcagcc tcgtgcccc caactacggg 120
 ctggtgctct acgaaaacaa agcggcctat gagcggcagg tcccaccacg agccgtcatc 180
 aacagtgcag gctacaaaat cctcacgtcc gtggaccaat acctggagct cattggcaac 240
 tccttaccag ggaccacggc aaagtcgggc agtgccccca tcctcaagtg cccacacag 300
 ttcccgctca tcctctggca tccttatgcg cgtcactact acttctgcat gatgacagaa 360
 gccgagcagg acaagtggca ggctgtgctg caggactgca tccggcactg caacaatgga 420
 atccctgagg actccaaggt agagggccct gcgttcacag atgccatccg catgtaccga 480
 cagtccaagg agctgtacgg cacctgggag atgctgtgtg ggaacgaggt gcagatcctg 540
 agcaacctgg tgatggagga gctgggccct gagctgaagg cagagctcgg cccgcgctg 600
 aaggggaaac ccgcaggagc ggcaccgcag gtggatccag atcttcggac gccgtgtacc 660
 acatggtgta cgagcaggcc aaaggcgcgc cttcgaagga gggggctgtc caa 713

<210> 204
 <211> 275
 <212> DNA
 <213> Homo sapien

<400> 204

gtagacaagt	acagcagatc	cagacaccag	atctagctag	gctaaatgta	cagtatctaa	60
cttgatctga	actgaacctg	tattccttga	tgatgcctaa	aactacatcc	atagaattct	120
ggtgaacctg	taatacagtt	ctgaaagtac	agttttatat	aataagatgc	tgatctcttt	180
attctttcaa	gtaagagtgc	tagagaacaa	attgtgttac	ttgccttggg	atttattgaa	240
cgtctggaaa	atgctgtctt	cctagatcca	aacag			275

<210> 205

<211> 694

<212> DNA

<213> Homo sapien

<400> 205

ctgttcctgt	acattttaact	gaaaaaaaaag	taactttaaaa	taatataaaa	atagcactca	60
tgatgtcct	acagttatag	gtgaaatttg	atattgtttg	tcttacatag	cataacctata	120
gacagcttaa	gtaaagtgc	tgtaaagagg	gttatgctta	ttgatgaact	cttgtagtgtg	180
cttaccagct	ctgttagtat	agttaaattg	atctcagtag	cttcaagtat	ttataaaaatg	240
gttgaagtcc	aaatacatgt	gataattaca	atacactttg	aattaatgga	gggtgggagg	300
ctagtgtaaa	tgcatTTTTat	ttacccaagg	agtatgttaa	aatgatagtt	ataaatgttg	360
gaagtttaaa	gcaagatact	cagtttagtt	ctttacaaat	cataagaaga	acaaaattag	420
atgttgacat	tgctatttta	ggctgtgtgt	ttcccatatg	cttcttgctt	tccctgtcac	480
aggtggtggc	agcaatattg	gtgtgattga	ggttatgctg	gcaccactcg	cacacaggcg	540
cacaatggtg	ttagctgggc	agaaagagtg	gcctctctg	ctaccgggct	gggggcgacc	600
tttaccatag	gatgaagtaa	ccttgcatte	ggctgcaagg	tgtactgtac	cgtacacagg	660
tgctgggtcg	atggccactt	tctgcttttc	tttc			694

<210> 206

<211> 704

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(704)

<223> n = A,T,C or G

<400> 206

tttttttttg	gnaaaaacag	ggtttcatca	tgtttgccag	gctagtctca	aactgctgac	60
ctcaggggat	ttgccgcct	cacccaattc	aactttcgta	agtcagtatt	taccatctaa	120
ctcagtgtcc	caaaatttaa	aatttccttg	cactttacag	caaaaataca	tattggggct	180
ctactgaagc	aatatataca	tgtcaaaact	aaaaatcaga	aaagcaaaag	gtccattca	240
acatatagca	gcttatattt	aaatatgtac	aggtatgtat	gttttcacag	ttagatcttt	300
aaaaaaaaatt	atatttgata	tgttcaaaaa	tacttctatt	ggctataaat	aatattttta	360
aagctcaact	gatcaaaatg	cattccaaga	acatatcaaa	ttaaataaat	cttctacgtc	420
tttaaaaaaca	gataattgaa	gtcagtaaag	cttgagggtt	gtgttaagt	tattctgtca	480
gtccctacta	ctaggggaag	cagaatcttc	taaatacgat	acgaaagaaa	ctcccaaagc	540
ttggaaggaa	tcggcagctc	ctgaactttt	tggggggggc	atccctcttc	gggattgaca	600
tgcgacataa	atgttgcaag	ctaagggacc	ccccccgggg	gagtgggccc	caaaaaaac	660
cacaccttcc	ccgtcaatgg	tggtccccc	accaacctta	aaaa		704

<210> 207
 <211> 225
 <212> DNA
 <213> Homo sapien

<400> 207
 ccatTTtaac tgtactgcca atagaattct ggaattgtgg aaaattgtat cattgaagtt 60
 cagtaggatg tgtggcttaa aaatttatca ggaccacaaa aaagaaaaca aaaatatttg 120
 gtactgaggt tcattgccag ggcaggaggt atttccagaa aatactcatg cctgtgttct 180
 gttccttgct ttcccaaata ctgcatgtga ctttcctaag cggca 225

<210> 208
 <211> 678
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(678)
 <223> n = A,T,C or G

<400> 208
 cctatatcta tcaaaaaaaaa tccagttcct aactaataat ctcccaaaaa gaaagcacca 60
 ggaccagatg atataaatgg caaatttttt caatcattta aggacaaaat aataccaatt 120
 ctgtatcatt tcttccagaa cacttcctaa ctcatcgtat gaggccagca tcactctaatt 180
 agcaaaacca gataaagcca ttacaagaga gagtgacaga ccaatgtggt tttattgagg 240
 atgcaaacaa aatttaacat aatattttaat agtgaaaaac tggatgctct ttcctaagt 300
 tagagattaa ggaaagaatg tccccttcac tactcccata caacacctta ctgaaaattc 360
 tagctagctt tataaaataa anaaaaacca naaaataaaa taaaagggtg acagactgga 420
 agatacagtg aaggagggaag aaataaaatt ttctttgctc ataacatgat tcttctatgt 480
 ggaaatcaca gagatttgaa catttttttt ttttgagaca gtttttgctc ttgttgccca 540
 ggttgagtg taatggcgcg atctcggtc actgcaacct tcacctccg aattcaagg 600
 gattctctg cctcagcct tcccgagta agcttgggga ttaacagggc atggcacccc 660
 ccatgcccc agctaaat 678

<210> 209
 <211> 720
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(720)
 <223> n = A,T,C or G

<400> 209
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 aaagtatgca aagagtagga aattattctg atgacatag gagggttaca aaggagaaaa 120
 ctttttgcta cctctgataa agaatagact aaattctcca agaccaatct gactggtgtc 180
 ataataaaa gaggtacaca cggaagcaca agggatgtgt gcctctggag gaaaggtcag 240
 gtgaggactc agtgagaaga caagccaagg agccaggtct tggaagaagt caaccctgtt 300

gacaccttga	tcttggacta	accctgtgga	caccttgatc	ttggactttt	agcttccaga	360
actgcnagaa	aataaatttt	tcttgtttta	gccacccana	gtgtantgtt	ttgttatggc	420
agccctaaca	aattaaaatt	atattttaac	agagaatata	aaattcta	ataacatttt	480
acagtaaagc	attcatggtc	ttttttttct	tattaataaa	tccatcaaaa	cagaaagttt	540
tgcaaaattt	taacacattt	ctctaccact	actgtttcta	ctctcttaaa	actactccgc	600
aaatataaaa	atagaaggcc	aaaatgcac	attaaaacga	tgtttgggga	ctaattggcct	660
taaaattcta	ttacacttgg	aaatatacaa	atattcaaag	attatctatt	gatcacctca	720

<210> 210

<211> 277

<212> DNA

<213> Homo sapien

<400> 210

tccatgtatt	ttttatcaga	atggaacaat	atgtatgtat	gcaatyktta	cattccacca	60
tgaaataaaa	cagtataatg	aaaataacaa	tagattcaaa	caatgatatg	ctattttttt	120
ttacctatga	cattggcaag	gtcttcttaa	aaaatctgcg	aataaccgat	gttggagaga	180
tcatggggaa	atagccactc	aatgtttact	catgagagtg	tacatatgtg	taacttcact	240
tgaggggcaa	tttggtgata	catttaaaaa	gttttggg			277

<210> 211

<211> 715

<212> DNA

<213> Homo sapien

<400> 211

gtggtagaaa	tactaatttt	gcaattacag	aaaaaaacaa	atgccattca	catggttyct	60
aacaaaaagt	gtctgaccac	ccccaccccc	caccctcaa	aaagccctta	aataaagagg	120
aagatcaaaa	gaaaacaaaa	taattcccga	gtttcacctc	atacatacaa	tatagcacag	180
gaagtggcaa	agttttaa	aatgccttta	ctgttaggac	tagtatgctg	tcaaaagcca	240
caatcctttt	gttttagtga	gttgattttc	aatagaaaaa	tacaaatgaa	catgtgttta	300
agttccaaca	tggattgagc	acctctgaat	ttagtatcaa	atgattaatt	ttattttttca	360
gatgtcaaat	cttagtataa	aattttccat	tatttttaac	ttcacttgaa	tctttaaaaa	420
agctgtctaa	attgtactat	atgagttcag	tttaatcttc	tgtaaaatgc	taacaaattg	480
aactgtcagc	agtcttttaa	aaaaaaatgg	gggctgggtt	atttctagaa	gaactctcat	540
taagctttga	aaatcagaaa	tcagagacaa	ataacttcag	atatagacta	gctccacaag	600
caaatttata	caattatctg	taacagtcta	tacatatatg	tgtatatata	tataccgtaa	660
ccactttcat	aggtaaaaaa	tattaacttc	atgtcacact	atgatcagaa	gtata	715

<210> 212

<211> 717

<212> DNA

<213> Homo sapien

<400> 212

agctccccc	aatgccttaa	aaggtcacag	tagatctcag	ctctgaacag	aaactcaact	60
gaaactcttc	ccacaaccca	gcagtagata	tattaaaacc	tacaattttc	agggatacaa	120
ccaatattta	attcttttga	gggttttgtg	tttaatacaa	ggacacaaac	acacgtataa	180
aatgacgatg	tcaatactga	ttaaacagaa	caacaaaata	agaagctcaa	attatcatca	240
gctattgtgt	atatctgaaa	taacaataat	gcacttgatt	ctgaaagaat	gattagagtt	300
cctactctga	aaatctaatt	gtcttgatgt	ggcgaagtga	gaagaaagga	tgatttttct	360

aatgaaaagc	atgtatacgg	gtagcccttt	gcgagattct	gtcaaaaccc	tgaattttgc	420
attagctggt	ttaccaccca	aacgttttta	cccaggatg	tgcagcaatg	ggaactctca	480
tacactgctt	gtgggaatat	aaatcagtat	aaccactttg	gaaaaccatt	taacattgtc	540
aactacagct	ctacacacaa	gtgctataac	caccatttcc	actccagggt	atacacccta	600
aaaatatgaa	gtgcccattg	ctacccaaaa	ggccgcctaa	aaggaatgct	tttgagaagg	660
gttaaccttg	ttaattagtg	gcaaaactgg	gaaaacaacc	cccaaattgg	cccatcc	717

<210> 213

<211> 599

<212> DNA

<213> Homo sapien

<400> 213

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caaagcgatt	cagcaggatg	atgaccacag	gagtgcctga	gccgggcctt	tcagcccccg	120
tgtggatgat	gaccggccat	ccaggacatg	cgagggcttg	ggacagtggg	cagccagtgc	180
cacacaagga	aggaccgatt	aaatgacaca	gttaaaggaa	tttggcctag	ggagtgcag	240
ccagaaaggt	ttggtctttt	tatatatgta	acattggaaa	aaaggaacat	ctcctgttcc	300
ctgtattaag	ttttgacttt	agctcagcaa	atgcagtggt	tgtggcagta	aatatactct	360
gataacaatg	ttctttccca	ggaatttaga	gttttatgat	ggttattgaa	aatgtttaca	420
tgacaggctg	tcaataatat	tttttgcttc	taaaaataaa	acatacataa	agtgtacgga	480
ttttaagtat	gcaactcact	gaacttttca	taccgtaata	caccacccta	gtaaccctcc	540
cccagttcaa	gatgtagact	gtttccaata	accctcatc	ctgttcctta	atagcccc	599

<210> 214

<211> 789

<212> DNA

<213> Homo sapien

<400> 214

ccttatgaca	aaccttgcta	tgccaaggat	atgcttcact	atcttcatct	atcaaaacac	60
tatgcatcat	agatatctaa	ttttttcatc	tcttgcatga	agtctttcct	gatttccctc	120
tgctgaaatt	tctctcttca	aatgatgtgt	ttccatagta	ctttgtccct	tttcaaagat	180
atatctcaca	tcgcatattt	taccacagtt	agtttcattt	cttaactctc	acactagatt	240
acaaagtcaa	tatagacaaa	gaaatgttca	accttatata	acctcctctg	cctatgctgg	300
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aaagattaaa	gaccttgtag	aaagtcaaga	ggaagatagc	aatttcactt	ctaagaactt	420
accctaagga	aacattcatg	aagagataca	aggggttatg	tgcattggatg	ttcattatca	480
tattattctt	cattatgaag	attatgatgg	taataatgaa	aatgattatc	ttgtattggg	540
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tagcagccct	ataaggtaca	gactgttata	taagcttaaa	aaaataaagt	taatgtccaa	660
ggtcaaacaa	ctagtaaaaag	aagggggcta	ggaaatttgg	aacccccaaa	ggggcaacct	720
ctcaagggct	atgaatcctt	accattatta	taaggaagct	tggcccatgg	tggcccaaaa	780
aaaaccggg						789

<210> 215

<211> 765

<212> DNA

<213> Homo sapien

<400> 215

ggatgtctga	gcaggagaga	gaccatgtga	aggatggact	gaatggagac	ttgtatcaaa	60
gagtctgagt	atcaaagact	tgtattagag	agggttgttg	tagtaatcta	gtcagggat	120
gagaaatgg	ttgtattaga	gtgtcaggag	tagtcgtggc	aaaaatatat	agatcaggat	180
gagggatggg	cctcatctca	caccctgact	ccagtcaatg	gcagtggctc	cctggagtac	240
actactatag	gaaggatttt	gtaaagtttt	gtctggcctc	agtggagggg	gaggtagggg	300
aggagttcta	tgaacagtta	gtggtgtctg	ccatggttga	aacaatggag	aagggggaca	360
ccttttctgt	gcagatgttg	cttctggtag	atataatcca	caatgtaatg	ggagaagtac	420
taagaatcag	taaattatgg	aggggtgtaa	agactactga	tatttaagcc	tgccgaccgg	480
acttagagaa	atgatagtta	aaggagaaat	atccagcaaa	caaagatatg	acattgaagt	540
ttgggactgc	gatttagtacc	agagatttgg	attggaggtg	atttgtatag	aatggatagg	600
tgattttact	cttgcaattt	ggattgaggg	gtggggaaaa	ccagaaaggg	gctggggggg	660
aaattagtag	aagggtcacct	tgaattcatt	gtggtccata	tcaatgctga	aactgattgg	720
ggaacttttt	actcttgagt	ccctttgtaa	gggaacccca	gaaag		765

<210> 216

<211> 780

<212> DNA

<213> Homo sapien

<400> 216

ccttttctg	tggcaaatgg	aggtttttca	ctgcctgtag	agacaataca	gtaagcatag	60
ttaaggggtg	ggtcagaaca	tgttaagata	acttactgta	tatgtattcc	cttgtatttt	120
gttaaagctg	gaacatttga	tatttttcca	tttatttatg	aaaaaatatg	aacctatttt	180
catttgtaca	aggtaattgt	tttttaaagc	aagtcacctt	aggggtggctt	taattgtata	240
agtcaagcac	atgtaataaa	ttcaaaacct	gcagttaaca	ggatattaga	catcaatcct	300
ggtaaccaaa	tattaaagat	tctctttaaa	aaagactgaa	catgtttaca	ggtttgaatt	360
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ctttgccatt	tttctataaa	tcagtacttt	ttttttaatt	ttgatataca	ttgtgtgaaa	480
aaagaaaaatg	gctaataaac	tgtattaaat	cttaaaacaat	gtataaagat	tgcaacttagc	540
cagttcaaaag	tgtatactta	ttcataatga	attataacag	ttatatttct	gtgttttctt	600
gtaaatgttt	cttttccctt	aaatacagat	aattcatttg	tattgcttat	tttattatga	660
gctacaacaa	aaggacttca	ggaacaagta	atgtattagt	atggttcaag	attgttgata	720
ggaactgtct	caaaaggatg	gtggttattt	taaatataaa	tagctaattg	gggtggtaaa	780

<210> 217

<211> 810

<212> DNA

<213> Homo sapien

<400> 217

cttttaggca	gcccggcacc	ttcatccata	ggcagagaga	gaactgggtg	ttggagactt	60
attcgagggt	ataggaagg	ccctgtgaag	ttgatttaac	ttttggatgt	cagactgtga	120
aagctcctga	gaaacttggg	gtaataggat	cttcttttgg	ggatgaaaat	ggggaaggcg	180
tgaggaccta	gactacttct	ccctaggtca	gaaaaagaga	attaccctt	gacaaatatg	240
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ggaattggca	gacagcttcc	taagggcg	gagcgggggc	ccaaggctga	cactgcttgc	360
atccacgtga	ccttaagtta	tggcagatga	ctctgaaacg	gactgaggcc	aatgagaaca	420
gatggatgga	gcaactcagg	tagacttggt	ccttctccta	tgctggagga	gagggatggt	480
tctctagaat	gttggagggt	agttgagagc	tgcctcttg	aatgttgaac	agtgtactct	540
tctgaaaact	gcataatcac	tttatgtggt	ttcagaatac	tgggctcaat	actaacataa	600
gaaagacact	tcattgagaa	attcttaagc	ttacagaaaa	cctatctctt	tgcaacttcc	660

acataacccc	tagcaaaatg	caggttcttc	atacttctgt	cctttttcca	ttggaagaat	720
tgcttaagga	aaaattaatt	cctattttatt	cccacaaaag	ggtgggcatt	gctttgattt	780
taccccatgg	gggaatgtgc	ctttgaattt				810

<210> 218

<211> 817

<212> DNA

<213> Homo sapien

<400> 218

ctgctccctt	atggagggtct	cttcattaat	aattattgga	tagatagaga	aggtgagcct	60
gtggcttcca	agtaccggct	tttgctgaag	gtctacatgg	gaagaagagc	atcatttgat	120
attcagtaga	tctgccacac	ccaactggct	ccatctctctg	gaaaacagca	ctcactacaa	180
gcaactgtaa	tagcaccag	caatgaccac	gtgctctctg	ctggctcttc	cgtacaccag	240
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acattcaaat	attcaaatat	ccttccaatc	catttggaca	aaaatacacc	atggctgcca	420
agacacatgt	atttttcttt	cttccatgga	ctcctaaact	gctcccacaa	tcagcagtg	480
tcttctctca	gaaattatct	taagcttctc	tactcaatgg	gaggtacaca	cagagacctg	540
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ggggaacaca	tcctctgggt	aaagtactcg	gaagtaaatt	acattccctg	gagacagata	660
cgggctttca	ctgcagcctg	ttagaaaaca	caatgtctgt	aagttacctc	ataggtcaaa	720
gagttttgga	ttatatTTTT	cataatgggg	ctatggcctt	tttacctggg	ttttaataca	780
gaaccacctg	cagaaaggac	attgaaatta	aaagcca			817

<210> 219

<211> 661

<212> DNA

<213> Homo sapien

<400> 219

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ccattgcact	ccagcctggg	caacagagca	agattctgtc	tctaagaaaa	ggaaaaagaa	120
aatgaataga	tagtggtatt	agatgttaat	gacatcagtt	gtttttattc	tttattcttt	180
cttagaaaca	gattagtttt	ctcgaattaa	agaactacca	tttttctttt	ttctacaact	240
ttcaagagct	ggtgaagaaa	tgatgttttag	atttaataga	tatagtagca	gtcatatatt	300
aatagaatag	aaactgagac	tctaggaaaa	agatagacat	gagataagga	gtaggcatgg	360
tagacatttc	tagattattt	atgaaaatgt	tgtagaattc	attttttttt	ttggtctgac	420
ctttggcaat	ggtgctgagg	aagggaaagc	cagcccatca	ggcaaggctc	tgttttctgc	480
attttatccc	gtttgattct	tctcgttagg	attggagcaa	ataatttcaa	tatgttcttc	540
gctgggttta	tcatagtgac	ccttcattta	aagggacttt	taacaattga	cttaaagaac	600
actgagatgt	gatattttat	tgggatttga	aagttgccat	tgggttttac	cttccttaat	660
t						661

<210> 220

<211> 792

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(792)

<223> n = A,T,C or G

<400> 220

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cctcttttta ttctacaaa taattttcaa gtacacacaa ttgggtaaac aaagaaacaa      60
agccaccaag aatgaaaatc agtaggaata acgaacaaga ctacacagatg tcaacaacagt    120
ctgtgggtct tgcagacttc agatgttgga attattagtc gtggcaagnn nncaaacat      180
tagctattac cattatgttt accaactagt gaagtgaact atgagaggat atattaacca    240
cagaagttaa tagaagaata gactcctgaa aatatctgga tgctacaaac taaaatatag    300
tatataatcc ttcataagagt gtcagtgact tcatatttat aattacattt ttgtatatta    360
gcagtgttct agttcttact gccttatctt taagctgann nnaaataaaa ttatattttg    420
ggattcaaaa acacatagct aatgattact atgtggcagt gttacattac tttatcacat    480
atcattaaca taatctgcat gtgttcaaag agatcttcat acttctttgt agctcccact    540
tctttgtcgt cttttagtagt cccacaacat ctagaacagc acaaccgtat atggagaaaa    600
ctcagtctag tattcgttga atgactaatg gaaaatttag ttnataaaca gaactttctt    660
cattgnacaa attatcttgc agaagaataa tggccttagt ttaaaattat catatttacc    720
catntcncca ngttatttta tctcttttgg ctaanaattt tgaaaacggt accttttacc    780
ctttggcatt tt                                     792
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<210> 221

<211> 759

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(759)

<223> n = A,T,C or G

<400> 221

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cttttctgct gctccgggag gtggagtggc ctggcagagg gcacatggct gccacctgct      60
gcaaggaaaa ttctcagtga agactcctca gtatgaagga gataagcctg cacaatcagt    120
cactgataga tgcttagtggt aaaaacttcc aattcccatt tacagctctc agagctagga    180
ttaaaaaactc ctggtcataa actcatgtga tgagaagtta tagcacgccc tcattttcta    240
catanccact tgcatttatg gttggctttt gaacttgcta gaagggaag aagtgcaaatt    300
gtgtcctcct tagagctact ctctccctt tgggtgggtt ccagtttggt cattgtccag    360
atggcccagg agctgacgat caaagggaag aagtcatggt tgtcatgaga atgctttgct    420
gcatcaggat tcagtgaagc tgttcaccgc ctggagccca tgcagcctca agaggcagga    480
tggagctcag aaaccatcac tgaggttaga aagtgagcac caaagttgag ggaagcccac    540
aggagtgagc cgaagtgtct cctttggatt tccaaagtgg gtgctgctgc ttcttccatc    600
agccttgctt ctgaccccaa tgcgttcctg gtgccttctt cttggcattt tgctgtcggg    660
ggcccaagga aaaaaattcc tgcattggcag tggtgaaaaa agatggctgc ctgctgaaac    720
ctgatttggc ctgggtaagc cttttggagc cccggttaa                                     759
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<210> 222

<211> 699

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(699)

<223> n = A,T,C or G

<400> 222

ccttntnaag	agttggcatt	aattcttcac	taaatgtagg	agtagaattt	atcaggtaag	60
ccacactgac	ctctggncctt	nttnncgccc	gatgattttt	aattagttga	atccctttac	120
ttgttatata	tgtattcata	tattctgttc	cttcttggat	ttacttttat	gattgggtgcc	180
tattgaggta	tttatttcta	gtttgtggta	cttcatgtgt	ttaggttttc	tagacagtgg	240
acatagaaga	ttcaagaagc	taaatgtagg	agaatgtnta	atgtaggana	ntgaggcnac	300
natatcatca	atgaatgact	tgaagtttcc	tctgttgtaa	agaatgatat	taccataact	360
gccatagnta	atattgatgg	tgtaagtcaa	ataanaaggc	aggaggaaaag	ggacatccat	420
cactgaacca	canatcagag	nctcattgaa	gcctttgaga	agaatccaca	aaattttaca	480
ggataattca	tttctgcga	tcaccacnag	aagagaaact	ggttaaacag	acaggtattc	540
cagagtccaa	aaatttacat	ttggtttcng	aaccaaagac	ctcagctccc	aggccacagc	600
aaaagggggc	ttatgaattc	cctggcacc	agncccaaga	cccaanaacc	tcattctgat	660
tggtttnggg	cttgggaaac	caaaaaacca	atgggtggc			699

<210> 223

<211> 598

<212> DNA

<213> Homo sapien

<400> 223

aaaaagagaa	agtttcagat	ttgccattca	aggcttattt	atatatatgt	gtgtgtatat	60
aaatacatgc	acacacttgc	atacatatat	atttttggct	gggggagtgt	gagttttgcc	120
tttctaaggg	agggaaccgcg	caggctcctt	tggtctgtat	tctggcggag	atgggtcctg	180
gccttggtgc	actggcttat	ccttaaagat	catctcccat	cctccccagc	gccatctgtg	240
tgcagcaacc	agaaagggat	gaacttggcc	ctcttgcggg	cctggacaag	gtctcttctt	300
taccctttct	gttgccagtc	agcaacctgt	aactcacatt	ctcttcccag	tgaatccctg	360
ggagcgcctg	accctggtgg	gctgttcagc	ttcctgctgc	tggggccagc	aatttttgag	420
gatttatctt	taggccaggc	ttgcctccgt	acttatccct	gctctcccat	ttctctcttg	480
tttgagagag	aatgaggaag	caaagagtga	gaaagaatag	gggctgaaga	cgccactccc	540
agatggctct	ttctatcctg	ctcttctgtt	gaaacacacg	tgctgtgggc	ctcaggcg	598

<210> 224

<211> 501

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(501)

<223> n = A,T,C or G

<400> 224

aaacctttat	gatgacttcc	ttatgaatta	ctgaacgaac	actggaatgg	gactcaggta	60
tcctgaggac	atctctcaac	tctggcctta	gttccccctc	tgtaaaatta	gggtgccaac	120
taaatgatct	acaaggctcc	ttccagcgcc	gccattctgt	aattacatca	tgtgtaactg	180
tattaaacat	acacaagtga	ctgccaggca	tgggaatgta	acttccgagt	aaatgctttg	240
gtttgttcag	aatacactat	gaacttcttt	ccaaagacgg	gttgtggtaa	atagtggata	300
ttttgattat	aagaaataga	gtttccttga	agcttttagct	ggagatacag	caatagtgtg	360

gtgttcctac	aaatatcaca	gtgtattcaa	acatatTTTT	ctatcaaaaa	tcatttttgt	420
aaaagctgtg	tgTTTTtAtc	caacttgtga	taataaatgt	tctttatttt	agaacaaana	480
aaaaaaaaaa	aaaaaaaaaa	a				501

<210> 225

<211> 295

<212> DNA

<213> Homo sapien

<400> 225

cctgtatagg	gctcgTTTTc	ccacacatgc	ctatttctga	agaggcttct	gtcttatttg	60
aaggccagcc	cacaccagc	tactttaaca	ccaggtttat	ggaaaatgtc	aggaaaaaaa	120
aaaaaaaaaa	caatgcaact	cacacaatac	ccaaacatca	raattagaag	ggcataaaac	180
agggggcttt	ataggctgaa	aaatatctta	ratttcaraa	cagaatacca	atcaaatttt	240
gaaaattcct	ttgttcaaaa	cacaaagatg	ttttgttttt	aatgggagtt	ttttt	295

<210> 226

<211> 372

<212> DNA

<213> Homo sapien

<400> 226

agattcctcg	cttagagcat	gcgagcattg	aaggaccaat	agcaaactta	tcagtacttg	60
gaacagaaga	acttcggcaa	cgagaacact	atctcaagca	gaagagagat	aagttgatgt	120
ccatgagaaa	ggatatgagg	actaaacaga	tacaaaatat	ggagcagaaa	ggaaaacca	180
ctggggaggt	agaggaaaatg	acagagaaac	cagaaatgac	agcagaggag	aagcaaactt	240
tactaaagag	gagattgctt	gcagagaaac	tcaaagaaga	agttattaat	aagtaataat	300
taagaacaat	ttaacaaaat	ggaagttcaa	attgtcttaa	aaataaatta	tttagtccgt	360
atgaaatgaa	at					372

<210> 227

<211> 599

<212> DNA

<213> Homo sapien

<400> 227

ggcccccgtc	gcgggagccg	cttcgggcct	tctgggcatg	tctgccatat	ggctccaggt	60
ttgtttttct	ccccggcact	ctgacgggga	gggctcccgg	catctcctgg	catccgggta	120
gaggacgcgg	aggatgctga	gctgctggcg	cactgcagca	caactagaga	tgtacggatg	180
ccccatctt	gatcttacag	aatcagaggt	acagccgcga	gaaagagtca	agaacagaca	240
gagtcgcttg	aggactcagg	aggggtgttg	ctgcgttgac	aacagactac	accctcacag	300
tttgcctctg	tcttccaaca	ccagtggaa	atgatcacat	cccagggatc	agtgtcgttt	360
agggatgtga	ctgtgggctt	cactcaagag	gagtggcagc	atctggaccc	tgctcagagg	420
accctgtaca	gggatgtgat	gctggagaac	tacagccacc	ttgtctcagt	agggattatg	480
attcctaatac	cagaagtgat	tctcaagttg	gagaaaggcg	aggagccatg	gatattagag	540
gaaaaatttc	caagccagag	tcactctgga	ttaattaata	ccagtagaaa	ctattcaat	599

<210> 228

<211> 343

<212> DNA

<213> Homo sapien

<400> 228

aaagtaaatt	gtatgaaaaa	ttcatttctt	caattgcatt	agccacattt	tgagtattca	60
tgtggctggt	agattctgta	ttagcacaaa	gatatggaac	atttccatca	ccacagaaag	120
ttctgttgga	cagcactgca	ttagaatatt	ttcatactgc	tcttccctcaa	ttaatttttg	180
ttgttaatgt	tgatgtcttc	attggatggg	tcataatggt	ccatgaaacc	gctcaagtac	240
acaattgtat	gttctttgta	tcccttacca	caaatatctc	gctctgctca	tttcttttgc	300
agcttcctat	aaagtttgtc	ttcctcaaaa	aaaaaaaaaa	aaa		343

<210> 229

<211> 417

<212> DNA

<213> Homo sapien

<400> 229

ctcaagctgc	agtcaccgg	gtatggttct	ggatggttcc	cccaagggag	caggatatga	60
ggaggtgaag	aaaactgaga	tttcaagtat	gggagagttt	ttactatctc	cattcctgga	120
ttaaaagtgc	tgaaaaagtc	cacagttaaa	cattccttta	ttcacccctat	ggctcccaag	180
aaaagcattc	ttcctctgga	gtactgggtg	actaagggga	caatacacca	aatttggtga	240
gtttacaatc	aagtctaacta	aggttggaact	tccttatcag	tttggcagag	ttccagggca	300
gaataatcat	ccatctacag	gtctctgttt	cctctccctc	cgcagcagtg	gagagcatcc	360
cagtgtttgg	ggcactgtgt	tcctcttcgt	ccctgcacca	gacctggga	gccttgg	417

<210> 230

<211> 462

<212> DNA

<213> Homo sapien

<400> 230

gaaataccag	aagagaaagt	ttcattgtgc	aaatctaact	tcattggcctc	gctgggtgta	60
ttccttatat	gatgctgaga	ccttaatgga	cagaatcaag	aaacagctac	gtgaatggga	120
cgaaaatcta	aaagatgatt	ctcttccttc	aaatccaata	gatttttctt	acagagtagc	180
tgcttgtctt	cctattgatg	atgtattgag	aattcagctc	cttaaaattg	gcagtgtat	240
ccagcgactt	cgctgtgaat	tagacattat	gaataaatgt	acttcccttt	gctgtaaac	300
atgtcaagaa	acagaaataa	caaccaaaaa	tgaaatatcc	agtttatcct	tatgtgggcc	360
gatggcagct	tatgtgaatc	ctcatggata	tgtgcatgag	acacttactg	tgtataaggc	420
ttgcaacttg	aatctgatag	gccggccttc	tacagaacac	ag		462

<210> 231

<211> 328

<212> DNA

<213> Homo sapien

<400> 231

ctgtgggttt	tcctaaacgc	ccctcatctg	gttgaagccc	tagtgtttct	ttctcacatc	60
agaggcaaat	gcattggggt	gggtctggtt	tggacaataa	atttcctctg	gtttggacca	120
agaaaaacag	agttctttga	ccgtaacat	atatgtaaaa	agaaagtgtg	taaaaacaag	180
agttaaaatg	cttctaacag	tgtggctatc	actgcacagg	acactggaat	tggcattcgg	240
ggttggtgtc	gtccatgtgg	tttcgttgta	tgctcatgtg	tctcagctca	gacagagaca	300
tccaattgac	ttctgacttg	gggcattt				328

<210> 232
 <211> 595
 <212> DNA
 <213> Homo sapien

<400> 232
 cgccaatttt agcaaataag agattgtaaa agaagcagat tgaatgaaga attttttagct 60
 gtgcagatag gtgatgttgg gatggaaaat gctaatacaac taccctttct tttatcaagt 120
 aattaaaata aatctacata aagaaccaa aaggctgttt tataaaagtg aaatatccag 180
 tatttcagag ggccaggcaa gagcacttca gatgaggcag tcaaaatcat tttttccag 240
 tgaggataga ccacaagtgg gtggtgagac cattgaaagc ctttatcaac tgaagagtcc 300
 atttaacagc ataatttgtg ggaagactgg aatagggtg aataaatgtg tttgaatctc 360
 taattttata ctttcttttc ctgaggaact tgatttttct gtccttgat cgcttctca 420
 taattgggtc tggtcctttt actaccactc ttgagtccat atatgaaatc attaaagtgt 480
 gatgatcagt tttttataaa aatatatatt ttgtgtccag aaaaaaaaaa gcatacatat 540
 gtgattatgg ctaaatacaa ggtaactgga atgtatatatc ttttgctaatt gttcc 595

<210> 233
 <211> 600
 <212> DNA
 <213> Homo sapien

<400> 233
 atgaaggtaa actctaaaat cttcataggt caacaaagaa aattttatcct tcacacttat 60
 ttctagaag cagcagggtt tatttcctag attgcttaca atgaagctag aatatctgctg 120
 ataactgtag agtttcacaaa aggatcccta gggctacttc tacgttctcc ttaccagtgtg 180
 agcactctcc ataatttcca gacgggtcat gggggagaat gatagaaatg agcgtgggaa 240
 gaaagacaat gaaattagaa atgggtgaga cacatgggtg tagaatgcta agagcaggga 300
 tcaggacaat caaccagggtg tctaggaagg gtcaagtcac cagtgtcatc tgctgaccaa 360
 tgtttaggaag aaataaactc aaaggaaaca ccacattttt ccaattaaac tcaaatctat 420
 tgacttgtgg tggttctttg atgttgtggg gactgctata acagaaacca attggatttt 480
 caagggcaag aaactttgcc actgaataag atgatgtcat ccttcctgat aacaaatagg 540
 aatgggtggt cagctctaaa cagcgtggac tgaggggagt gcttttctac aatattactt 600

<210> 234
 <211> 500
 <212> DNA
 <213> Homo sapien

<400> 234
 aaattcctaa ttcttttact atcttctcaa cttttcccaa agataaaaata aatttcacat 60
 aatttcattg aggggaaatg gtagttgtaa aaaactacct caagtagcaa tcaccgctgg 120
 cagtgttttc tcaactttctg ttctgcaatt gcaatcacac ttccaaaaag aaaagcaaat 180
 gtttgctaaa ccatagacag acaacctctt tgtgactggt attataaggt ttataatgaa 240
 aacttatcaa atataaaaagg tgctccctct tgaatgtgtg tattttatgt gaagttttga 300
 gtaagagggt agtgtttggc aattttcaac actccctca aaaatctccc aaagttgcaa 360
 aaaagtcatg ttagtaaaat tccaagcact taaatgtctc attgagggcc agttgatata 420
 cgcaatgcac taatgtgtaa aaattaaccg aatgcaacta ttttataatg gagagctctt 480
 accttttctt tccagttttt 500

<210> 235

<211> 159
 <212> DNA
 <213> Homo sapien

<400> 235
 aaaatttaca gataaaggca gttcaatact gccactgaga agtacatctc ttaacatata 60
 caactttcag gccacagttt tgaaggctcg aagtattaag ttggtttgat gaattagtcg 120
 gttggcactt acgaacacat ttattgcctt gccatcttt 159

<210> 236
 <211> 254
 <212> DNA
 <213> Homo sapien

<400> 236
 aaataagtga ataagcgata tttattatct gcaagggtttt tttgtgtgtg tttttgtttt 60
 tattttcaat atgcaagtta ggcttaattt ttttatctaa tgatcatcat gaaatgaata 120
 agagggtcta agaatttgkc catttgcatt cggaaaagaa tgaccagcaa aaggtttact 180
 aatacctctc cctttgggga tttaatgtct ggtgctgccg cctgagtytc aagaattaaa 240
 gctgcaagag gact 254

<210> 237
 <211> 591
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (591)
 <223> n = A,T,C or G

<400> 237
 tttttttttt tttttttttt tttttttcta atttttactt tttctcaagt ttaatgtara 60
 catacaaraa aacatcaagc aatgtttatt gkgcaattcc aatcattatt tgcaraatct 120
 tggtttaag tcagtyttta tagccatttc aactgcttgg tttaaacaaa aagcaacaat 180
 ctggttatyt acctataaat ttcattggtat ttttttaaac actgaagtac taaaagcact 240
 gatgatttgt attataattt ttaaaatatt taaaacctac acagatttca taratcattc 300
 cttttataaa ataatacaaaa taatttgatt atytggaaaa aaaaattctt gaaacaragc 360
 cttttccagg tatyttcaat ctctgtaaaa ccccaaaccc caaacagagt aratgatgaa 420
 ataaggattt ctcagttgcc caagactgtc tgaaatttaa ggttgaaaaa tggactggcg 480
 tttttcatgt ttctgngaa ttcanagctt acaggtggca tcaaaactca aatctctggg 540
 atggctttac atggctttca ctttgatttg tttcattttc atttgcttct t 591

<210> 238
 <211> 252
 <212> DNA
 <213> Homo sapien

<400> 238
 aaatggcttt tgccacatac atagatcttc atgatgtgtg agtgtaattc catgtggata 60
 tcagttacca aacattacaa aaaattttat ggcccaaat gaccaacgaa attgttacaa 120

tagaatttat	ccaattttga	tctttttata	ttcttctacc	acacctggaa	acagaccaat	180
agacattttg	gggttttata	ataggaattt	gtataaagca	ttactctttt	tcaataaatt	240
gtttttta	at					252

<210> 239

<211> 153

<212> DNA

<213> Homo sapien

<400> 239

ccacaataaa	gtttacttgt	aaaatttttag	aggccattac	tccaattatg	ttgcacgtac	60
actcattgta	caggcgtgga	gactcattgt	atgtataaga	atattctgac	agtgagtgc	120
cggagtcctc	tggtgtaccc	tcttaccagt	cag			153

<210> 240

<211> 382

<212> DNA

<213> Homo sapien

<400> 240

aaaaaaacca	tctaaaagt	gtttttta	atatatatt	tttccaaagg	aagaaatttc	60
ttgcttttac	tcaggga	aaaaaaatta	aggtacatt	gagtagaatg	atttcattca	120
aaagagttct	ttcaggagac	atctgtgatt	cactgcattg	tttttatttt	cttctttttc	180
ctcttctttt	ccaacatttc	taccattttc	ctcttcttgg	ttgatatcag	gccactttct	240
tttggttgctt	tcttactgtc	acctgttaaa	ccgcgtttct	ttgtgttagg	ttttgaccgc	300
ttttcttctt	tgtgcactgt	gtcaccaggc	tcctttttgc	caattttgga	ctgttcttta	360
cttacaggag	aaggctctgc	ag				382

<210> 241

<211> 400

<212> DNA

<213> Homo sapien

<400> 241

ggcatgagcc	accgcgcccg	gccctatctt	ttacttttat	aaatagagat	gaagtttcac	60
catgttgccc	aggctgggat	cgagctcctg	ggctcaagcg	atcccccac	cttggccttc	120
caaagtgctg	ggattacaag	cgcgagccac	cgaaattatt	cttaactagc	aagactaggc	180
tctgacatca	catccttata	gttacatccc	tttaagcagg	gttcagccac	tactctgca	240
cctggagaac	ttgatgggta	tccctcgaag	tgacagtcct	gcaaatagaca	aaaacactcc	300
aaatctatta	ggttgggtgca	aaagtaatta	cgctttttgc	cactgaaagt	aagtcccaca	360
ggaccctgag	ggaaatggga	gggtggggta	tacatagcag			400

<210> 242

<211> 75

<212> DNA

<213> Homo sapien

<400> 242

actcacatat	gcagacctga	cactcaagag	tggttagcta	cacagagtcc	atctaatttt	60
tgcaacttcc	tgtgg					75

<210> 243
 <211> 192
 <212> DNA
 <213> Homo sapien

<400> 243
 gctccacatt tgtagcgaac actttgactc caaagagaag gaggaagaca aagacaagaa 60
 ggaaaagaaa gacaaggaca agaaggaagc cctgctgac atgggagcac atcagggagt 120
 ggctgttctg gggattgcc ttattgctat gggggaggag attggtgcag agatggcatt 180
 acgaaccttt gg 192

<210> 244
 <211> 616
 <212> DNA
 <213> Homo sapien

<400> 244
 aattttatag caatatactg accattctaa aaataacaaa atacatgttg ctctcaacta 60
 catagttaaa aaaggtagta aattctctta cccaaaatag aggaggggtg ggctagttag 120
 ctgctcaaac atttgaaca aataaaaatg tatctatata catataatga tcatgttttc 180
 atagcctaaa atcaccatac aaaatctaata aataaaaattg tgcgtgttc aggagttggg 240
 aagccaacac attaaattaa caaagtattt ttggtatatg taaataatgg gatagaatct 300
 ctgcaatcag gattgtccca gaagttctaa ggcagatgtc aatgacatgc acattgtcca 360
 tgttcagtaa ttttcaaaga ctagaataaa ctatgtaaac tattcaatac aattcaatat 420
 tacttaactg ctaaaaagta cttcaagatc ttgcactgcc ttgagttagt ataatacaat 480
 tagtaattgg aaaatagctg taatagcagg cactgaagaa ttctgacaaa taccaataa 540
 ctgtttgttt ttaccaaata aactggtaag atgatatcac aaagggtttt aagttatttt 600
 gctatacaag gttttt 616

<210> 245
 <211> 165
 <212> DNA
 <213> Homo sapien

<400> 245
 ttggaacagt ggattaaaaat ccagaagggg aggggtcatg aagaagaaac caggggagta 60
 atttcttacc aaacattacc aagaaatatg ccaagtcaca gagcccagat tatggccgc 120
 taccctgaag gttatagaac actcccaaga aacagcaaga caagg 165

<210> 246
 <211> 229
 <212> DNA
 <213> Homo sapien

<400> 246
 tgtactggat cctccagggt gggggcgact ctcacctgac tattacaata gcctcctaag 60
 tggtttccct acttgcaacc ttgccgctat aatatctatc ctccacacag caggcagggc 120
 gatcctttaa gaatagaagt tagatcatga aaatgctctg ctctgatccc tgcaaaagct 180
 cgccacctcc ttacagtcac cgctgaactc gtagcagagg ttcaggagg 229

<210> 247

<211> 338
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(338)
 <223> n = A,T,C or G

<400> 247
 ggaaaccgtg tgtacttatc ctggatgatg ccaccagtgc cctggatgca aacagccagt 60
 tacaggngga gcagctcctg tacgaaagcc ctgagcggtg cccccgtca gtgcttctca 120
 tcaccagca cctcagcctg gtggagcagg ctgaccacat cctctttctg gaaggaggcg 180
 ctatccggga ggggggaacc caccancagc tcatggagaa aaaggggtgc tactgggcca 240
 tggngcaggc tctcgagat gctccagaat gaaagccttc tcagacctgc gcactccatc 300
 tccctccctt ttcttctctc tgtggtggag aaccacag 338

<210> 248
 <211> 177
 <212> DNA
 <213> Homo sapien

<400> 248
 tgaaaacaaa tgaattctca actcctacgg ttcattgtaga gtttagagaa aatttccatc 60
 attgtcatca ttgaactgtg aacctgggaa gccagatcat gattaacact gacatcaagt 120
 ttcaagttgc agatcaatgc acccagtgtt cagatgaggc aaacttctcc gtgacaa 177

<210> 249
 <211> 263
 <212> DNA
 <213> Homo sapien

<400> 249
 aaagtaatga ctttattaat aaatatacat ccatatgatg atgtagatac aaatcatgaa 60
 cactactcca ttcccataca cataattgca cagcagtagc tcaagttcat ggacataaaa 120
 acatacacag tatctattca gactttttac agcagaggac agcgtgctta ttatcagtta 180
 attggtaatt attttctcca aaattacctg tggaaaaaag aaattctgaa aacttaaaag 240
 aatcaaagtg atctgattac ttt 263

<210> 250
 <211> 333
 <212> DNA
 <213> Homo sapien

<400> 250
 aaaaaaaaca acagcgtaaa tattagccca caagagcagt cctaaacaat cacaattaca 60
 ctgtactacc caagaagact gtttattgtg aagcatttac ctttcaaaaa atcattacat 120
 ttctattttc tgggtggagca gcacattgtg gagtgtgatt ctttaattctt cattgagttt 180
 gtcaatagga cattgatgct ggatagggtg tcttttgttt ttatgcctca gaccatcttg 240
 tgagattgtt tgcctatctc ataatacagt tttatgcaga aagggttgaaa ctatgtaaat 300
 ggtttttatg gaaattatca gttacaatat ttt 333

<210> 251
 <211> 384
 <212> DNA
 <213> Homo sapien

<400> 251
 aaaccatttg tacaaaactt ctataaattt ttctctctct ttctctctta tgtacaaaaa 60
 tatcttaata tatccccgaa ctgggttagga tagatacaaa tagatttttt ataataaaaa 120
 attcacaaaa gattggaagc attctataat gaaaatggta gaaaagacag tgtgagggaa 180
 gccatggggg ttgggaatcg ggccctggag gagaagcaga gtttcaaagg gctgagaata 240
 gcatagtttc actgtaaacc aatgtctaca gcttattggg gtgggggcta ctgagacgaa 300
 agacaccaac tcgtttctag agggctaaga actgcacttt aagaaagggc ggggaggtga 360
 agggacccga gcaagaactt tcag 384

<210> 252
 <211> 211
 <212> DNA
 <213> Homo sapien

<400> 252
 aaagcagtct gaaaatggga catctgtaga gaaattcatt tccttcttct cctccggatg 60
 tggaatggaa gctttgaggg aaggaaaagt aggaaaagag cgggatggga tgggatggga 120
 tgggatggga tgggatagga agagaggctg ggggaatgggc agagaagggg gtgctgagtg 180
 tgctgtgaga tagagcaaga tcacaagaag g 211

<210> 253
 <211> 135
 <212> DNA
 <213> Homo sapien

<400> 253
 aaaaattgtt tcttgacaag ctgacttggc acttaagtgc acttttttat gaagaaaaag 60
 tacaatgaac tgcttttcct caagcaataa ttgtttccaa cttgtctggg aattgtgtgt 120
 ctggttaactg gaagg 135

<210> 254
 <211> 361
 <212> DNA
 <213> Homo sapien

<400> 254
 cctgtagccc ctgctacacg ggaggctgaa gtgggaggat cacttgaacc aatgagggtg 60
 aggttacagt gagccagat catgccacta ctctacaggc tgggtgataa gagtgagacc 120
 ctgtatcaaa aaaaagacaa ggaaaaaaa aactgggccg tttgtttttg cagaatgtct 180
 ctcaatttgg actttttggg caggaataca atacaagtga tacaaatgct tctttaacat 240
 tagaacctgt ataaaattac cattacagac cttgctattt tacttatagg taaatcactg 300
 ttaccacaag taagtctttt gggaatttcc aaaaatgaag tccatggaca gttaaaaact 360
 g 361

<210> 255

<400> 255

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<210> 256
<211> 186
<212> DNA
<213> Homo sapien
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<400> 256

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<210> 257
<211> 255
<212> DNA
<213> Homo sapien
```

<400> 257

```
<210> 258
<211> 604
<212> DNA
<213> Homo sapien
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<400> 258

ctgaatttgc	aatggagttt	ggtggtgcaa	tcggtattga	ttagtttggc	atagacagat	60
gcagcagttt	agagcaaaat	cgagaaaatg	atTTTTTTTT	tctccttga	tttcttgcca	120
gaagatatct	tactttttca	gcaaactttt	cttttaacac	taaagcagcc	tagggcaatg	180
ccagatactt	agagcttttc	tcttgattat	aagtagaaat	gggggtgtct	gggctagagg	240
tggagggtgg	atgtgctgtc	gtcacagtct	agctggcagc	aagcaaggca	aaagcagaga	300

```

ctgctctaga agcgggtcca agcagcagag acgtcaggaa aggcacttct tagtaccaac      360
ctctatgctt taatagttgc ttgttaagct gcttcatggg ttgagacaaa ctaccagcac      420
ttcaaagagc tcagttctct gctcaactct cttctctagt tacattatct ttttctcttc      480
aggagactga ggcaggaaaa tcgcttgaac tcaggaggtc gaggccgcag tgagccaaga      540
tcacaccacc gcactccagc ctgggccttg caaagtgcta ggattacagg aatgagccac      600
cagg                                              604

```

<210> 259

<211> 429

<212> DNA

<213> Homo sapien

<400> 259

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aaaaatgtct gtatcgagat cttccagttt gaagtcttcc tcctctgtgt cttcccaagg      60
ctctgtggca agctccactg gttctccgcg ttccatcaga accactgact tccacaatcc      120
tggctatccc aagtacctgg gcacccccca cctggaactg tacttgagtg actcacttag      180
aaacttgaac aaagagcggc aattccactt cgctgggtatc aggtcccggc tcaaccacat      240
gctggctatg ctgtcaagga gaacactctt tactgaaaac caccttggcc ttcattctgg      300
caatttcagc agagttaatt tgcttgctgt tagagatgta gcactttatc cttcctatca      360
gtaactgctc cgtgttcaga ctccctggttt cttccaggct tacagtggac atcatcagct      420
tcctgcttt                                         429

```

<210> 260

<211> 385

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(385)

<223> n = A,T,C or G

<400> 260

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ctgcaacaca tgcagcacca gtctcagcct tctcctcggc agcactcccc tgtcgctctt      60
cagataacat cccccatccc tgccatcggg agccccccagc cagcctctca gcagcaccag      120
tcgcaaatac agtctcagac acagactcaa gtattatcgc aggtcagtat tttctgaana      180
cgcatatggc agacggattt gcgtatacca aggagagtgg cataggaggg aaaagcatat      240
gtggctgaaa cctgtaagtt ggtgttggtt atgcagaaat gtgtaacaga tcaaacggtc      300
ctctcaagtg tctattanat aggcaataag aactgcagtg tagctgagta acatctttta      360
gctgactata aatcactttg ttttt                                         385

```

<210> 261

<211> 230

<212> DNA

<213> Homo sapien

<400> 261

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ctgtactgga tcctccagg tgggggcgac tctcacctga ctattacaat agcctcctaa      60
gtggtttccc tacttgcaac cttgcccgtg taatatctat cctccacaca gcaggcaggg      120
cgatccttta agaatagaag ttagatcatg aaaatgctct gctctgatcc ctgcaaaagc      180
tcgccacctc cttacagtca ccgctgaact cgtagcagag gttcaggagg      230

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<210> 262
 <211> 198
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(198)
 <223> n = A,T,C or G

<400> 262
 atgttaagta aacatgaaat ctatataaca gaacaaaaat tcactcttat gtcaatgtca 60
 gcgtgttaat gtagatctat ttactganac agactctgta gtggcagaga gtggccttgt 120
 taagccagga cctgtttctg caggctgtgg gtagaagcta ggaagtcctt ggagtttcac 180
 ccagcttttc catgaatg 198

<210> 263
 <211> 157
 <212> DNA
 <213> Homo sapien

<400> 263
 aaaatatatt tctaaacaga atgggccgac tcagtcacag taactgttga tctccatagt 60
 agagcaaccc acaaagacag aactgatttt ttcccataa tcaggggtga aaaatataca 120
 acttgtttct gaaccaaacc cacaatttct gcagttt 157

<210> 264
 <211> 290
 <212> DNA
 <213> Homo sapien

<400> 264
 ctggctactc caagaccctg gcatgaggct gaggacaact tacaagggct tcaccgaagc 60
 agtggacctt tattttgacc acctgatgtc caggggtggtg ccactccagt acaagcgtgg 120
 gggacctatc attgccgtgc aggtggagaa tgaatatggt tcctataata aagacccgc 180
 atacatgcc tacgtcaaga aggcactgga ggaccgtggc attgtggaac tgctcctgac 240
 ttcagacaac aaggatgggc tgagcaaggg gattgtccag ggagtcttgg 290

<210> 265
 <211> 234
 <212> DNA
 <213> Homo sapien

<400> 265
 aaaaaaagga aaggaaagag aggaaaagaa aataaaataa gacgatttat tgcttctcct 60
 cagcatcctc cttggtctcc tccttcaccg agagagcttc tagcttttcc gccacttttt 120
 cggcatgac atttttgcct gatcctttct tttctctctc ttgatctct ttcctgcatt 180
 cttcaaactt tgttttgaat ttctgtgcat tctcagcatt caggaagcgg atgg 234

<210> 266

<211> 335
 <212> DNA
 <213> Homo sapien

<400> 266
 gtcctcatca tcccagtttg aggcagtgct ggagtgggga aggccgtctt agaccataga 60
 ggttggaaga cgctgagaga tcatccagcc cagccccttg atgttacaga gcagaagaca 120
 gatgccc aaa caggagaagg cacttgccca cggtcatacg gcaggttgcc aaaaaaccaa 180
 gatggcagcc cttcctcagc gtgcctcact gccactccca gagccaggga gcccataaa 240
 acccacatca tgtcttaaga gtatatctgg ctccttgacc agcaatcggc cctgggagcc 300
 accaggtggg aaaagcgcct ctgccagagt ccagg 335

<210> 267
 <211> 619
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(619)
 <223> n = A,T,C or G

<400> 267
 tggagctctg acgaagggat cggggaggtg ctggagaagg aagactgcat gcaggccctg 60
 agcggccana tcttcatggg catggngtcc tcccagtacc aggcccggtt ggacatcgng 120
 cgctcattg atgggcttgt caacgcctgc atccgctttg tctacttctc tttggaggat 180
 gagctcaaaa gcaaggtggt tgcanaaaaa atgggccttg agacaggctg gaactgccac 240
 atctccctca cacccaatgg tgacatgcct ggctccgaga tccccccctc cagccccagc 300
 cagcgaggct ccttgcata tgacctgaat cagggtgtccc gagatgatgc anaagggtc 360
 ctctcatgg aggaggagg ccactcggac ctcatcagct tccagcctac ggacagcgac 420
 atccccagct tcttgaggga ctccaaccgg gccaaagctgc cccgggggtat ccaccaagt 480
 cggccccacc tgcagaacat tgacaacgtg cccctgctag tgcccccttt caccgactgc 540
 accccanaga ccatgtgtga gatgataaag atcatgcaan agtacgggga ggtgacctgc 600
 tgcttgggca nctctgcc 619

<210> 268
 <211> 147
 <212> DNA
 <213> Homo sapien

<400> 268
 cctataaccc agacaccagc atggacaaaa ctcaattata ctgaattcag agacaaaatt 60
 cagtgcact cttctaccac ttatttaggg ttctacagca tttcactgag cagacttagt 120
 tttttgtttt tgttttacaa acctttt 147

<210> 269
 <211> 325
 <212> DNA
 <213> Homo sapien

<400> 269

ctgagctgta	ggaatggggt	cttggtacac	aagatagtat	tgttgagcta	gttttcgagc	60
tctgtgcaca	agcactctgt	aatcgggggc	catgccactg	tacaccaaac	ctatatgctt	120
ggtaattggg	tctactttgt	gtacacttcg	ctcatcatac	agaatggatt	tctgtttttt	180
ctcagttgct	aataccacac	catttgcagc	tttaattccc	acggacgggg	ctcctccagc	240
tacagcagcc	aaagcatatt	caatctggac	aagtttacca	gacgggctga	atgtagtcag	300
cgaaaagctg	tacccgcgct	ccgcc				325

<210> 270

<211> 428

<212> DNA

<213> Homo sapien

<400> 270

aaacatatgg	taaattaccg	agtgacacct	ctgggctaga	gacctctttt	gaggggagtt	60
tgcaaactac	ggattcaatt	tctttaacag	ttatgaagtt	ctttaaagaa	cctgttttgt	120
attggggggg	tgtgggcacc	tgtgcttttc	tgagatttgg	cccctacatc	taagttgttg	180
aatgcatgtg	tgtagagttg	tttatgggtg	ttccctttct	tcttagaagg	gtctatagta	240
atatccctcg	ccttatccct	agtagtacta	atttgtgttt	tcttacttct	tgacaggcaa	300
acacatcaga	gcataagtgg	ttcctaattg	caagctgacc	tcccttgatc	tctgtcttct	360
acaggatatt	gacatgggac	ttctttatta	ccttttcagt	tcactgatac	cttcaaatag	420
ctttattt						428

<210> 271

<211> 206

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(206)

<223> n = A,T,C or G

<400> 271

cgtcccgagg	cccacggngg	ncatggctgg	canagcgctc	tgcattgctgg	ggctgggtcct	60
ggccttgctg	tcctccagct	ctgctgagga	gtacgtgggc	ctgtctgcaa	accagtgngc	120
cgtgccagcc	aaggacaggg	tggactgcgg	ctacccccat	gtcaccccca	aggagtgcac	180
caaccggggc	tgctgctttg	actcca				206

<210> 272

<211> 83

<212> DNA

<213> Homo sapien

<400> 272

ctggcttccc	tgagaactca	acaatgcctt	ttcctgaggg	ccttctctga	tcattccaaa	60
tgactacagc	cctctctacc	tgg				83

<210> 273

<211> 472

<212> DNA

<213> Homo sapien

<400> 273

ctggagaagg	tgtgcagggg	aaaccctgct	gatgtcaccg	aggccagggt	gtctttctac	60
tcgggacact	cttccttttg	gatgtactgc	atggtgttct	tggcgtgta	tgtgcaggca	120
cgactctgtt	ggaagtgggc	acggctgctg	cgaccacag	tccagttctt	cctggtggcc	180
tttgccctct	acgtgggcta	caccgcgctg	tctgattaca	aacaccactg	gagcgatgtc	240
cttgttggcc	tctgcaggg	ggcactgggt	gctgacctca	ctgtctgcta	catctcagac	300
ttcttcaaag	cccgaacccc	acagcactgt	ctgaaggagg	aggagctgga	acggaagccc	360
agcctgtcac	tgacgttgac	cctgggagag	gctgaccaca	accactatgg	atacccgcac	420
tctctctct	gaggccggac	cccgccagag	caggagagctg	ctgtgagtcc	ag	472

<210> 274

<211> 205

<212> DNA

<213> Homo sapien

<400> 274

ccaggcggcc	cgaggactta	cggtcggcac	ttctctgttc	tcccgtgtca	gcgtgtggtg	60
tcgcctgcac	gggtcgtacc	tggatgggtg	gtccaccatc	gacacggagg	ggctggattt	120
gtttctcagg	caatcctgta	ttttaatttt	agatgtattt	cctgaagcat	atttttcata	180
gaatgtagcg	tgtaaatagc	ttttt				205

<210> 275

<211> 308

<212> DNA

<213> Homo sapien

<400> 275

ctcctcgccc	tccccaccga	catcatgctc	cagttccagc	ttggatttac	actgggcaac	60
gtggttggaa	tgtatctggc	tcagaactat	gatataccaa	acctggctaa	aaaacttgaa	120
gaaattaaaa	aggacttgga	tgccaagaag	aaacccccta	gtgcatgaga	ctgcctccag	180
cactgccttc	aggatatact	gattctactg	ctcttgaggg	cctcgtttac	tatctgaacc	240
aaaagctttt	gttttcgtct	ccagcctcag	cacttctctt	ctttgctaga	ccctgtgttt	300
tttgcttt						308

<210> 276

<211> 201

<212> DNA

<213> Homo sapien

<400> 276

aaattaactt	tttcttgcaa	aatattcatt	tcattttttc	caagaaaatc	ttataaaggc	60
aaaaataaaa	ttttattttg	gcaaatgtca	tgaagtcgat	actggcagca	tatggagtta	120
gttaaaaaata	gacaacaact	gctagatata	ttcaaaaattc	tatttttttt	tctgagcata	180
gtcaaagaga	aatttttcatt	t				201

<210> 277

<211> 520

<212> DNA

<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(520)
 <223> n = A,T,C or G

<400> 277
 aaaaaaaaag tattcagcac catttgctca tnggtctttc agagtttggt cttaaagttt 60
 ctggaacttt cctgtctgta aagtaacagg aattactgag ctacattgga aagcctctct 120
 gggacaggca gtggggagtt aagcagtcac cataaaggaa tcagtgtaca ttcagcatgg 180
 tgacttgact acacaacaat cccttccctt ctactgtagc tcaagagaga catgcttcta 240
 accactgagg tatgaggagt ctcagactgt tatttgctgt tagaattggt cttcccagct 300
 aataacagta catctctggc acagatgcta ttggctctta atgtcctgtg attttaggaa 360
 atagtttgga tttagttcaa tttattcaga aaccaaactg gtttaattag cttcactact 420
 ctggcagagt aagggtatgc tgggttagta tctttataaa atatatataa tgtataggta 480
 aatcatagtc ttaaatcata cctaaaatac tgtatcattt 520

<210> 278
 <211> 264
 <212> DNA
 <213> Homo sapien

<400> 278
 cgcgcggggc ggaactttcc agaacgctcg gtgagaggcg gaggagcggg aactaccccg 60
 gctgcgcaca gctcggcgct ccttcccgct ccctcacaca ccggcctcag cccgcaccgg 120
 cagtagaaga tgggtgaaaga aacaacttac tacgatgttt tgggggtcaa acccaatgct 180
 actcaggaag aattgaaaaa ggcttatagg aaactggcct tgaagtacca tcttgataag 240
 aacccaaatg aaggagagaa gttt 264

<210> 279
 <211> 414
 <212> DNA
 <213> Homo sapien

<400> 279
 aaacatacaa taatttttat tatggaaatt aatctttaca tacaaaatca gctacgtaat 60
 ttactttaca aaacaataaa aactgttctt tactgtggca acaaaagaag cattttgaca 120
 aatgaaaaaa attaatgcaa acaaattaaa acaatgcttt tctttttact tgcttctact 180
 tctcttctat ttattttcta tgatcatttg acacaaacat ggattacttt gatattctact 240
 gaaacataaa tgataagggtt cttaaagggt gaattaaaag tctgggtggt caatatttta 300
 gaagctgaat aaacaaaacg aaattggggt ttgtgattac agaggattta tcattttttc 360
 cctttgtcca tatgaaaata tataatagaa aattaccac gggaaaacat tttt 414

<210> 280
 <211> 262
 <212> DNA
 <213> Homo sapien

<400> 280
 ccaccatgcc tggcctgctt caattttttg atgccacttt gtaaaccggc cttaattatg 60
 gaaaatagga aaaagcaaaa ctaaaataag gaagaggata tatatataac ttttcacaat 120
 ctcttttctg atccctttta gatgccagtc caaccaggac cacacacaga tttcatttta 180

tttgtagagt atatgaaaag atttaatagt ctcatgcatt ttatttttacg tataactgatt 240
tctacgtttt gactgactat tt 262

<210> 281
<211> 349
<212> DNA
<213> Homo sapien

<400> 281
ctgtgaccgc ggtgcatcag tggatatagt tgtgtctccc catgggggtt taacagtctc 60
tgcccaagac cgttttctga taatggctgc agaaatggaa cagtcactctg gcacaggccc 120
agcagaatta actcagtttt ggaaagaagt tcccagaaac aaagtgatgg aacatagggtt 180
aagatgccat actgttgaaa gcagtaaacc aaacactctt acgttataaag acaatgcttt 240
caatatgtca gataaaacca gtgaagatat atgtctacaa ctcatcggtt tactagaaag 300
caataggaag cttgaagacc aagttcagcg ttgtatctgg ttccagcag 349

<210> 282
<211> 381
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(381)
<223> n = A,T,C or G

<400> 282
aaacactaaa tgaagcttct cacaatttct aattataaac aaaaggctga aaacagtatg 60
ggaaacaaag tttcaaaaca aagaaaagtt gagtaaaagg tgccccctct atgggtcact 120
tgaaagaaac attttactca gagaggcaaa catttctgat ctaggagtaa gtttcccact 180
cactttgcaa ggaccactc attctgcana aagacctaca agtctttctg gtctcaattg 240
caaagtacgt gaaaatgtgt atgaaagatc taaaagctaa atattagaat aaggctaatt 300
gaaatcaaaa ttgtgtgctg gtctaaatat acatcttcgg cttcttcctt tttagtaagt 360
atttttattt cagatgtatt t 381

<210> 283
<211> 543
<212> DNA
<213> Homo sapien

<400> 283
aatatagctc ctccctaccc ccaacaatgg accctgcccc ttgcctccca gttccttgat 60
cttcttaggt tccacaactc tcttttctct tttagtttta ttcctctcag ccaaacctct 120
cttattcaat attttgagcc aatgggggag ttatgtagat ttttttccct acacattagc 180
tgcccccttt tatgaccaat gactcataag gcaagatgtg tgggtggcatc ttgggacagg 240
cagcaggctt taatagggca gcctgggttg gtggaggcaa gcaaagctaa ttggcatgag 300
tggaatcaa accccaggcc ctgggctcat tagcccatgg tcaaaacaac tgagccagag 360
gaggtaataa tttgcccagg aatatcagta gttcctttat tagaagaaaa tggctgatat 420
ggaagtggg gaatctgaat tgccagagaa tcttgggaag agtaataagc tcttagtctc 480
aacaaaaagt gttttttcat ctacgcgcgt aaagggtgct atatgggaac aaagaagtat 540
ttt 543

<210> 284
 <211> 147
 <212> DNA
 <213> Homo sapien

<400> 284
 aaactggtat tttatctttg attctccttc agccctcacc cctggttctc atctttcttg 60
 atcaacatct tttcttgccct ctgtcccctt ctctcatctc ttagctcccc tccaacctgg 120
 ggggcagtgg tgtggagaag ccacagg 147

<210> 285
 <211> 316
 <212> DNA
 <213> Homo sapien

<400> 285
 cggccgaggt ctggcttcac tctactccc tctctgctcg cagcacgtcg gccgccagct 60
 ctttgatgtg ttcccaggcc cgctgcacat gggcagattc caccgtgcga gaacagatgg 120
 caaagcgcag gacaaacttg tccctgaggt gacatggaac caagtggatt tttttggcac 180
 tgtttattct ttgcagaaga gcttcattca ctttgttgga accctttagc cgaaagcaga 240
 caagccccag aatgacttcc acacagattt caaagcgggg atcctggcgc accagtgact 300
 caaactcatg ggacag 316

<210> 286
 <211> 322
 <212> DNA
 <213> Homo sapien

<400> 286
 cctggggagc ccttttagtgg ggtgggacct caggcagacc cccaaaccaa agggagccag 60
 atgcccaggt tcaagtcatt agtgatatgt ggcagggctg acagagaaat aatcctggag 120
 gtctccaaag ctgctgggaa tggaaatggcg atgaaaagcg caggagtggg cagggtgtgg 180
 tgggtgatgg tggcctcact cagagtggac caaggcccca gctccttgcc caaaacaaaa 240
 gcccttgggc ccgaagtttt tagcataaca tcctttgcag taaatctcgc catccttgtc 300
 tgccaggggtg gttgactcaa gg 322

<210> 287
 <211> 364
 <212> DNA
 <213> Homo sapien

<400> 287
 ctgcccagcg tcaaaccaat tctggctgat atcgagtacc tgcaggacca gcacctctg 60
 ctcacagtca agtccatgga tggctatgaa tcctatgggg agtgtgtggt tgcactcaaa 120
 tccatgatcg gcagcacggc ccaacagttc ctgaccttcc tatcccaccg tggcgaggag 180
 acaggcaata tcagaggctc catgaagggt cgggtgcccc cggagcgcct gggcaccctg 240
 gagcggctct acgagtggat cagcattgat aaggatgagg caggagcaaa gagcaaagcc 300
 ccctctgtgt cccgagggag ccaggagccc aggtcagggg gccgcaagcc agccttcaca 360
 gagg 364

<210> 288
 <211> 261
 <212> DNA
 <213> Homo sapien

<400> 288
 aaaattataa ctactcattc tttcttttagc cttagttaat ttgagcagaa gccacaacaa 60
 gcaaaccaca ataaatttag aattggcaga aatccacatt aactcctctt cccaagtttc 120
 cacactacta ccatttacag ttgtaggttt gtaatgtata attatgtaat gcagaaacta 180
 gctttgactt gtgtaacgat gcactgtcaa agtaagcaaa gtaagaattg aaattccaca 240
 ttcccagaat ttaacactca g 261

<210> 289
 <211> 261
 <212> DNA
 <213> Homo sapien

<400> 289
 ctgagtgtta aattctggga atgtggaatt tcaattctta ctttgcttac tttgacagtg 60
 catcggtaca caagtcaaag ctagtttctg cattacataa ttatacatta caaacctaca 120
 actgtaaagt gtagtagtgt ggaaacttgg gaagaggagt taatgtggat ttctgccaat 180
 tctaaattta ttgtggtttg cttgttgtgg cttctgctca aattaactaa ggctaaagaa 240
 agaatgagta gttataattt t 261

<210> 290
 <211> 92
 <212> DNA
 <213> Homo sapien

<400> 290
 ccactacccg aacttacagg tgccaaaaga agaaagggtg taaacggaga ccacctatca 60
 ctcacagaa cctaggatca tcacattcct tt 92

<210> 291
 <211> 287
 <212> DNA
 <213> Homo sapien

<400> 291
 ccatggctcc gctcagggcc ccgggtcacct ccgagtcact ctgttccttg actgtctttg 60
 tgtttctgta cctcaaggca ctgaagctgg aggactctgt ccatgcctgt gtcacctcg 120
 tgtgggagcc tctgggctcg gcaggtccac atttcatgag ctgaggcggtg ggccagggcc 180
 atctggaaag ggaactcggc ttttcagaa cgtgggtgat catctgtcgg gtgtgtggtg 240
 aacacgttca gttcatcagg gcctacgctc cggaagggg ccccccag 287

<210> 292
 <211> 270
 <212> DNA
 <213> Homo sapien

<400> 292

```

ccattgtttc ctcgctggcg aaggctcctt gaacatccct caccttcctc tcccgcctct    60
gccttctgct ggggtcaaagg tggccttttc tctccagcct tgaattgttc cctggttggt    120
tcccaagggc ccatctgctg gtacagtcca cacttcaca gccaaagacc gagagggtt    180
tcaactgccc aagcctctct cctgtgacc tgggattctg tcttggcaga atcctttgtc    240
agcggctctt actctgtcct tcctgtttgg                                270

```

<210> 293

<211> 333

<212> DNA

<213> Homo sapien

<400> 293

```

ccatgctcgt caacctgggtg tccactgctt gctacgtctc cttcctcttc ctgggctgcg    60
acactggccc tgtggctggg gttactgttc cctatggaaa cagcacagca cctggctcag    120
ccctggaccc ctactcgccc tgcaataata actgtgaatg ccaaaccgat tccttcactc    180
cagtgtgtgg ggcagatggc atcacctacc tgtctgcctg ctttgcctggc tgcaacagca    240
cgaatctcac gggctgtgcg tgcctacca ccgtccctgc tgagaacgca accgtgggttc    300
ctggaaaatg cccagtcctt gggtgccaag agg                                333

```

<210> 294

<211> 123

<212> DNA

<213> Homo sapien

<400> 294

```

ctgatacaaaa tacagaaaac tctgcccatt atccaagaaa caaataatta agactaaaat    60
gcaagctgat gtgttcgagc attgtagggc cactaaatag ccatctgtga ttcgtggcaa    120
ttt                                123

```

<210> 295

<211> 311

<212> DNA

<213> Homo sapien

<400> 295

```

ctgcatacag acatttgttt aggtcatctg gattatcttg attgtcacca tggcaactat    60
ccacaaccag tgcctagggtg tgtgagaaga gtgatacaat aatactgtgg catggtcatt    120
tagctaatacc agtctaagcc taacagaaac cttttccatc aaagtttttc agagaataac    180
aacatctcat aagaggccag aggatggctt gtgcttaata tcacacctgt acagtagggc    240
agtgttccc aggctgtctg cttacatttt agcttgtctt acggttacat atgggttttag    300
tattttcatt t                                311

```

<210> 296

<211> 241

<212> DNA

<213> Homo sapien

<400> 296

```

ctgcggaaga tctgcaacca ccctacatg ttccagcaca tcgaggagtc cttttccgag    60
cacttggggg tcaactgggg cattgtccaa gggctggacc tgtaccgagc ctcgggtaaa    120
tttgagcttc ttgatagaat tcttccaaa ctccgagcaa ccaaccacaa agtgctgctg    180

```

ttctgccaaa tgacctccct catgaccatc atggaagatt actttgcgta tcgcggcttt 240
a 241

<210> 297
<211> 295
<212> DNA
<213> Homo sapien

<400> 297
aaacacaaga tgaataact ctgttctgtc caaagcatca cctaattggtg tgaggcatct 60
cacttagctg tggagaagtc cttggaatta gatctcagaa agacagcttt aagacagtaa 120
aaccttttgg caatgggcta attgccttaa aagaagagtt ctacctgaaa gaccttgcag 180
gtggagaaat tgtcctacaa agattcttgg atatgttagt ggagataact gacatgggta 240
gctgtgggtc aaccaggaac tgtcaacaac ctgattctctg caaaaccagg atgga 295

<210> 298
<211> 347
<212> DNA
<213> Homo sapien

<400> 298
ccaaaataaa gcttcaggca agaggcaaag atccagtgga atatgggaga atggtggagg 60
accaacacct gctaccccag agagcttttc taaaaaaagc aagaaagcag tcatgagtgg 120
tattcacctt gcagaagaca cggaaggtag tgagtttgag ccagagggac ttccagaagt 180
tgtaaagaaa gggtttctgt acatcccagc aggaaagact agcccatata tctgcgaag 240
aacaaccatg gcaactcgga ccagcccccg cctggctgca cagaagttag cgctatcccc 300
actgagtctc ggcaaagaaa atcttgcaga gtcctccaaa ccaacag 347

<210> 299
<211> 268
<212> DNA
<213> Homo sapien

<400> 299
aaaaagtaaa catgaaaaca tcacgaattg taccatgatt caagaataac ttttgtaata 60
gaaaacacat gaccttttgc agtatagtgt gataccgaag taaaagtga agaaataaat 120
gcaggaaagt ttaagtggat gtaagttttt ataaggaaag taataagagg aggctgcttt 180
tgaaggctct ttgatcttcc atgatgataa tatcgttgca aagttcttta acttgtattc 240
aagtaattag cagttgacca cttggttt 268

<210> 300
<211> 185
<212> DNA
<213> Homo sapien

<400> 300
aaattggaga aggaagtttt cctgaagagc cagaatcctt gctaagtcac ttagatccaa 60
ctgaccatct ttatttctgt caaaaatctt catcatggtg ccggtgtatt cttccagttt 120
agcctcagaa atggcctttc tgtggtgaag aaagaggtct cggaggaagt tgcggagctc 180
agcag 185

<210> 301
 <211> 75
 <212> DNA
 <213> Homo sapien

<400> 301
 aaaattggaa agtggggataa gaaatctaaa gtaaccagct tatcttttgaa acaatattat 60
 tttgaaattg gctttt 75

<210> 302
 <211> 247
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(247)
 <223> n = A,T,C or G

<400> 302
 ccatgtttctc tgaattgggt gcagaagaca agggcagagt ggctgcggcc cctattacct 60
 ttgtagcagc cacatcagaa agcagaagaa aacagtattt ctgaaggcat tgtttgaggt 120
 tgatctcagc actgaacgat ttcaagccct acgcaccana acagaaggag ggtggaggaa 180
 gtgatcanag ggaacgagct gtaggtttgc anaaatgtgt gaaaccaaaa tgatcactgc 240
 ctacttg 247

<210> 303
 <211> 535
 <212> DNA
 <213> Homo sapien

<400> 303
 ctgcttcaga ggaaatcact gaaaaataaa gaaaaacat ccatgcatgg ctgcatccag 60
 tgtacctgta atcctgaaga aaaggctcta attccttcca tgctgaaatg ctgcttttgg 120
 ttctcagagag agactttatt gcaactgtga ccaccgtcac tggtagagcac tgctgttcgg 180
 cccccagcgg acttaaaaga ctggaatgtg gtagtgccgg tcgttctcgg tcagcaggga 240
 gatctccggc cagtccttga gaggtctctc tgggtagcag acttcaaagt ctctggagtt 300
 aaacttgaac agtctgaaca cttttatctt tacttcaagg gagtatccaa gtataaacat 360
 atcaatctgc tctagtccac atgtgtcgcc tacagaattc aggtgattca tcatgaagct 420
 caaaggatca gaggatgtct ccctggaaaa caggagtcta aaaagactgg gaatgacctt 480
 tttagtcttc atttgttcat aaacttcagt gacttgatac agcatgatga actttt 535

<210> 304
 <211> 522
 <212> DNA
 <213> Homo sapien

<400> 304
 ccgcgctcgg tctacaatca cgttttatta ttggctcgtc tagtcatggg atagagaagg 60
 taaatagcaa aatagaaaga aaagggggaa aaggtagaag gcaaggggaa aactattggg 120
 tttagatctt tatcctgggc ctgtcaatga tcaggtaatt ggaaggatca aaattaggcc 180


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aaacttggtta attggggccaa aattgaacca aagtttgtgt caagaagacc tggggcagag      240
atatgtgact aaatcatttg gaatatgccc agacccaag aatatttatg cccaacttga      300
atgctaacca gaagtcctt actgtagaag attgtaaggt tgctattttt ttgccccgac      360
accaaaatat tgatgtattt tccaacacca attctccaat tctctgacac caactcgatg      420
ttcaacaatt cagttatatt ctgtcactaa ttctgcagc tatcagcagg cccacaggt      480
aaaggattca gtctcacaag attgcccccc caccacttc ag                               522

```

<210> 305

<211> 165

<212> DNA

<213> Homo sapien

<400> 305

```

cctaaagcgc tcctcgctga agctcaaggg gtccacaatg atttgtttgt caaagttatt      60
gagtgcataat gccagttctc ctctcctcc accctggtgc tgtgaggcat cgtctgaggc      120
agtggcctgg gctgcattgg aaatgcctgt gaccgcctgc tgcag                               165

```

<210> 306

<211> 294

<212> DNA

<213> Homo sapien

<400> 306

```

ctgcacctaa gacatggccc tggctaggcg ggaacagctc acagtagcga tacattcaca      60
ggacacagtt ggtgtccaga aaagggggct cagaacacag tttctacaca agcacttggc      120
accacacaga cacagacgct actcaagcag cacagccaca aatagtttac agcagctcat      180
gcccggcatc cgcccatgct gggagactcc ctgaaagggt ggcacctgcc gtctatgagg      240
aggtgtctcc ctccatcatt aaccccaaac cacacaatgt gtgaggagag cagg                               294

```

<210> 307

<211> 181

<212> DNA

<213> Homo sapien

<400> 307

```

aaaaatccat gacaccttga tagaaattag agtttacaca aacaaaaaag gaaccttcga      60
tattgccagc agctataaag tgaacgtact gagaccgaca ggacagcaag aaggcatttg      120
cacatttata tctgacaccc gaccatactt tcagtcacca gaatatcttc tctccagatt      180
t                                                                                   181

```

<210> 308

<211> 179

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(179)

<223> n = A,T,C or G

<400> 308

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aaggctgagg actgctggga gctcagatca gcccggagct actggctcat gggcagccaa      60
aaaatactgg atctgctgaa cgaaggctca gcccgagatc tccgcagtct tcagcgcat      120
ggcccgaaga aggcccantc aatcgtgggc tggcgggagc tccacggccc cttcagcca      179

```

```

<210> 309
<211> 129
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(129)
<223> n = A,T,C or G

```

```

<400> 309
ctgcccgcctt gcccgtagct gactcagntt cctcatcttc atctccatcc tcttctctcac      60
catcaccttc ttcttctctc tctcttctct cccacacctc ttctctttct tegtctacct      120
cattgtcag                                     129

```

```

<210> 310
<211> 390
<212> DNA
<213> Homo sapien

```

```

<400> 310
tgaggctggg ggagagccgt ggtccctgag gatgggtcag agctaaactc cttcctggcc      60
tgagagtcag ctctctgccc tgtgtacttc ccgggccagg gctgccccta atctctgtag      120
gaaccgtggg atgtctgcat gttgcccctt tctcttttcc ctttctctgt cccaccatac      180
gagcacctcc agcctgaaca gaagctctta ctctttccta tttcagtgtt acctgtgtgc      240
ttgggtctgtt tgactttacg cccatctcag gacacttccg tagactgttt aggttccctt      300
gtcaaataac agttaccac tccgtccag tttgtgtgcc ccagaaaggg atgttattat      360
ccttggggggc tcccagggca agggttaagg                                     390

```

```

<210> 311
<211> 355
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(355)
<223> n = A,T,C or G

```

```

<400> 311
cctctctgtg ctgctgaagg cagatcgctt gttccacacc agctaccact cccaggcagt      60
gcatatccgc ctgttgagaa atgccgtgtc tagattgtgg acaagagcct gcgtgattat      120
gctatangga naaaaattct tcgagttcca ccnancctcc tctaaacatt tggctcactc      180
aaaacaaaaa gncaccaatc ttantactgc tgaacttcat ttatgtnacc taacattaac      240
cntcgtagga aaaccaaata gccctctcgt ncangatatg ttgctaaagg actacntgt      300
tcaacacaac ggctccggtg tgtgaactcc tgtttggggtg attccccctac tctca      355

```

<210> 312
 <211> 498
 <212> DNA
 <213> Homo sapien

<400> 312
 ccattctttt gaatctaatc tattatcaat agcatcctcc ataatatctt tgataaaagg 60
 tgtccaccga gagagctgaa aagtttcttc tgcagaccga tcctttctta acggtttgcc 120
 ttgttgagat tggggaacaa tgggaacacc aaggtaactc cagttacgaa tcatgtcact 180
 ctcatcttct atctttacat tctggatcaa cctgtccaaa ttttcttcg tagttccatt 240
 aatactgaag atataaagta gaattgctct tattttatca caattatcat gatttttggt 300
 gagtagaact ggaaggagta ctgcgatgga atctttcacc ttctgtcctt ctgcacagt 360
 tccaagtgcc aggtcctgtt cagttttgca gagcttttct atattaagct tgaacttatt 420
 catgcaatct tctgctaagt taagatggac aacttgctta gtaatctgtt ttcggaaata 480
 gggcatcttt ttcacacag 498

<210> 313
 <211> 653
 <212> DNA
 <213> Homo sapien

<400> 313
 aaacttatca gattttttta agttaggtaa tttcaatcca cagtggctcc atatgggttaa 60
 aaaaacaaaa acaaaaacgc atttaaggat acacgaagca gtgaaaacaa agccccagta 120
 ttttcgctaa agtactggaa atacctgttt ctaaaaacag ctttatattt gtccactgcc 180
 tagaatagct ctacccaaa cctcaaaaat aagagcagat agattttaga agcaagaaaa 240
 ggtaaacagt gcccatatta tttgagactg gctctgctgc cctccctaag ccagtttaca 300
 ttctttgaga ttcttgaggt gggtagtca gggctgaaga ctgcacaggc catgtccct 360
 gctccaacta ttcctcagaa cgtcccagggt ggaggagtg gcctgtcgat tttcactcat 420
 tccatggagc tctgtgtaca tgaaaattcc tccaagtgtg gcttttgcg aattcagaga 480
 tacagcaagc cacgcataaa acatggagtg tagagcactg gtgtacctag cttagaaaca 540
 cctcggtgga atgtggtact gtggctcgaa aggaagcaag ggacaggacc caggagactg 600
 ggcggccagg ctctcggagt tccacacaca cctgtgaagc ccggccagca cag 653

<210> 314
 <211> 513
 <212> DNA
 <213> Homo sapien

<400> 314
 ctggaagatt ttgctgcatt tggcattata ctgtaattta cagtatacaa catctgggga 60
 ctcagtacta tcttagcaca gactaacttc tccactccg tcagaggtgg caggtggcgg 120
 gtcggtgggg agggcctttt ctccccataa atgcctgaac ttttaattat accatataag 180
 aaatcagtga aaggtaaaca acaagggtta tgtaactcta ttataaattt tgcatttttt 240
 ttctctgtga catatacaag tatatttttg tttttggagc tataaattat ttaatttagc 300
 aatcttcaaa gctcataaat ttcaactttt caaataagaa attttaactt caaataagaa 360
 gtctaggact ttatggctat taattttact atcaaaaatat ccaagggact ccattcaatg 420
 taatagttat aattcttcta aatatcattt gaataattct ttgtggacgc tagactcaag 480
 actatgctac atccaaacag tacatctata acc 513

<210> 315

<211> 222
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(222)
 <223> n = A,T,C or G

<400> 315
 atttatattc aaggnatctc aaagaaagca ttttcatttc actgcacatc tagagaaaaa 60
 caaaaataga aaattttcta gtccatccta atctgaatgg tgctgtttct atattgggtca 120
 ttgccttgca aacaggagct ccacaaaagc caggaagaga gactgcctcc ttggctgaaa 180
 gagtcctttc aggaaggtgg actgcattgg tttgatatgt tt 222

<210> 316
 <211> 1633
 <212> DNA
 <213> Homo sapiens

<400> 316
 cgtggaggca gctagcgcga ggctggggag cgctgagccg cgcgtcgtgc cctgcgctgc 60
 ccagactagc gaacaatata gtcgggatgg ctaaagggtga cccaagaaa ccaaagggca 120
 agacgtccgc ttatgccttc tttgtgcaga catgcagaga agaacataag aagaaaaacc 180
 cagaggtccc tgtcaatttt gcggaatttt ccaagaagtg ctctgagagg tggaagacgg 240
 tgtccgggaa agagaaatcc aaatttgatg aaatggcaaa ggagataaaa gtgcgctatg 300
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 ctcccaaaaag gccaccgtct ggattcttcc tgttctgttc agaattccgc cccaagatca 420
 aatccacaaa ccccggtatc tctattggag acgtggcaaa aaagctgggt gagatgtgga 480
 ataattttaa tgacagtga aagcagcctt acatcactaa ggcggcaaa ctgaaggaga 540
 agtatgagaa ggatgttgct gactataagt cgaaaggaaa gtttgatggg gcaaaggggc 600
 ctgctaaagt tgcccggaaa aaggtggaag aggaagatga agaacaggag gaggaagaag 660
 aggaggagga ggaggaggag gatgaataaa gaaactgttt atctgtctcc ttgtgaatac 720
 ttagagtagg ggagcgccgt aattgacaca tctcttattt gagaagtgtc tgttgccctc 780
 attaggttta attacaaaat ttgatcacga tcatattgta gtctctcaaa gtgctctaga 840
 aattgtcagt ggtttacatg aagtggccat ggggtgtctg agcaccctga aactgtatca 900
 aagttgtaca tatttccaaa cattttttaa atgaaaaggc actctcgtgt tctcctcact 960
 ctgtgcactt tgctgttggt gtgacaaggc atttaaagat gtttctggca ttttcttttt 1020
 atttgtaagg tgggtgtaac tatggttatt ggctagaaat cctgagtttt caactgtata 1080
 tatctatagt ttgtaaaaag aacaaaacaa ccgagacaaa cccttgatgc tcttgctcg 1140
 gcgttgaggc tgtggggaag atgccttttg ggagaggctg tagctcaggg cgtgcactgt 1200
 gaggtggac ctgttgactc tgcagggggc atccatttag cttcaggttg tcttgtttct 1260
 gtatatagt acatagcatt ctgctgccat cttagctgtg gacaaaagggg ggtcagctgg 1320
 catgagaata ttttttttta agtgcggtag tttttaaact gtttgttttt aaacaaacta 1380
 tagaactctt cattgtcagc aaagcaaaga gtcactgcat caatgaaagt tcaagaacct 1440
 cctgtactta aacacgattc gcaacgttct gttatttttt ttgtatgttt agaatgctga 1500
 aatgtttttg aagttaaata aacagtatta cattttttaga actcttctct actataacag 1560
 tcaatttctg actcacagca gtgaacaaac cccactccg ttgtatttgg agactggcct 1620
 ccctataaat gtg 1633

<210> 317
 <211> 4235
 <212> DNA
 <213> Homo sapiens

<400> 317

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gaatccaagg gggccagttc ctgccgtctg ctcttctgcc tcttgatctc cgccaccgtc 60
ttcaggccag gccttggtat gtatactgta aattcagcat atggagatac cattatcata 120
ccttgccgac ttgacgtacc tcagaatctc atgtttggca aatggaaata tgaaaagccc 180
gatggctccc cagtatttat tgccttcaga tcctctacaa agaaaagtgt gcagtacgac 240
gatgtaccag aatacaaaga cagattgaac ctctcagaaa actacacttt gtctatcagt 300
aatgcaagga tcagtgatga aaagagattt gtgtgcatgc tagtaactga ggacaacgtg 360
tttgaggcac ctacaatagt caaggtgttc aagcaaccat ctaaacctga aattgtaagc 420
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 tcactttctg atcactctga tacttttttt tttttttttt ttttgcaacc tgataccttg 2160
 aaaagcttct atgtgtctct ccttttggtg cctggcagct gtctaggatg atcactgatt 2220
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<210> 322

<211> 1398

<212> DNA

<213> Homo sapiens

<400> 322

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 ctaaccctaaa ggaattgaaa ggaaccactc attcacttct agacgacaaa atgcaaaaaa 180
 ggaggccaaa gacttttgga atggatatga aagcatacct gagatctatg atccacatc 240
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 aatgggtctca atctctggaa aaacttcttg ccaaccacaa tggtcaaaat gtctttggaa 360
 gtttcctaaa gtctgaattc agtgaggaga atattgagtt ctggctggct tgtgaagact 420
 ataagaaaac agagtctgat cttttgccct gtaaagcaga agagatatat aaagcatttg 480
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 agaagattaa agcaccaacc cccacgtgtt ttgatgaagc acaaaaagtc atatatactc 600
 ttatggaaaa ggactcttat cccagggttcc tcaaatcaga tatttactta aatcttctaa 660
 atgacctgca ggctaatagc ctaaaagtgc tgggtccctg ctgaaggga ttaacagata 720
 gtatcaaggc acgaaggaat gtgccagtat gggtccctgg gtgaacagct tggccttttt 780
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 ccaggcgcag agttgaagaa gcataagcaa gacaaaaaca gagagaccgc agaaggagga 900
 agatactgtg gtactgtcat aaaaaacagt ggagctctgt attagaaagc cctcagaac 960

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tggaaggcc aggtactct agttacacag aaactgtgac taaagtctat gaaactgatt 1020
acaacaggct gtaagaatca aagtcaactg acatctatgc tacatattat tatatagttt 1080
gtactgagct attgaagtcc cattaactta aagtatatgt tttcaaattg ccattgctac 1140
tattgcttgt cgggtgtattt tattttattg tttttgactt tggaagagat gaactgtgta 1200
tttaacttaa gctattgtct ttaaaaccag ggatcagaat atatttgtaa gttaaatcat 1260
tggtgcta atataaatgtg gattttgtat taaaatatat agaagcaatt tctgtttaca 1320
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<210> 323
 <211> 1316
 <212> DNA
 <213> Homo sapiens

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<400> 323
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agtaccaaag ccaagatgcc cattgtgggc ctgggcactt ggaagtctcc tcttggcaaa 120
gtgaaagaag cagtgaaggt ggccattgat gcaggatcgc ggcacattga ctgtgcctat 180
gtctatcaga atgaacatga agtgggggaa gccatccaag agaagatcca agagaaggct 240
gtgaagcggg aggacctgtt catcgtcagc aagtgtgggc ccactttctt tgagagaccc 300
cttgtgagga aagcctttga gaagaccctc aaggacctga agctgagcta tctggacgtc 360
tatcttattc actggccaca gggattcaag tctggggatg accttttccc caaagatgat 420
aaaggtaatg ccacggtggg aaaagcaacg ttcttgatg cctgggaggc catggaggag 480
ctggtggatg aggggctggt gaaagccctt ggggtctcca atttcagcca ctccagatc 540
gagaagctct tgaacaaacc tggactgaaa tataaaccag tgactaacca ggttgagtgt 600
caccataacc tcacacagga gaaactgatc cagtactgcc actccaaggg catcacctgt 660
acggcctaca gcccctggg ctctccggat agaccttggg ccaagccaga agacccttcc 720
ctgctggagg atcccaagat taaggagatt gctgcaaagc acaaaaaaac cgcagccccag 780
gttctgatcc gtttccatat ccagaggaat gtgattgtca tccccaaagc tgtgacacca 840
gcacgcattg ttgagaacat tcaggtcttt gactttaaat tgagtgatga ggagatggca 900
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gaagactatc ccttcaatgc agaataattga ggttgaatct cctggtgaga ttatacagga 1020
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atttaagatc acagtgaact tagtcctgtt atagacgaga atcgagggtgc tgttttagac 1140
atttatttct gtatgttcaa ctaggatcag aatatcacag aaaagcatgg cttgaataag 1200
gaaatgacaa ttttttccac ttatctgatc agaacaaatg tttattaagc atcagaaact 1260
ctgccaacac tgaggatgta aagatcaata aaacaaataa taatcataaa aaaaaa 1316

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<210> 324
 <211> 200
 <212> PRT
 <213> Homo sapiens

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<400> 324
Met Ala Lys Gly Asp Pro Lys Lys Pro Lys Gly Lys Thr Ser Ala Tyr
      5              10              15

Ala Phe Phe Val Gln Thr Cys Arg Glu Glu His Lys Lys Lys Asn Pro
      20              25              30

Glu Val Pro Val Asn Phe Ala Glu Phe Ser Lys Lys Cys Ser Glu Arg

```

35	40	45
Trp Lys Thr Val Ser Gly Lys Glu Lys Ser Lys Phe Asp Glu Met Ala		
50	55	60
Lys Ala Asp Lys Val Arg Tyr Asp Arg Glu Met Lys Asp Tyr Gly Pro		
65	70	75 80
Ala Lys Gly Gly Lys Lys Lys Asp Pro Asn Ala Pro Lys Arg Pro		
	85	90 95
Pro Ser Gly Phe Phe Leu Phe Cys Ser Glu Phe Arg Pro Lys Ile Lys		
	100	105 110
Ser Thr Asn Pro Gly Ile Ser Ile Gly Asp Val Ala Lys Lys Leu Gly		
	115	120 125
Glu Met Trp Asn Asn Leu Asn Asp Ser Glu Lys Gln Pro Tyr Ile Thr		
	130	135 140
Lys Ala Ala Lys Leu Lys Glu Lys Tyr Glu Lys Asp Val Ala Asp Tyr		
	145	150 155 160
Lys Ser Lys Gly Lys Phe Asp Gly Ala Lys Gly Pro Ala Lys Val Ala		
	165	170 175
Arg Lys Lys Val Glu Glu Glu Asp Glu Glu Gln Glu Glu Glu Glu		
	180	185 190
Glu Glu Glu Glu Glu Glu Asp Glu		
	195	200

<210> 325

<211> 263

<212> PRT

<213> Homo sapiens

<400> 325

Met Phe Arg Asn Gln Tyr Asp Asn Asp Val Thr Val Trp Ser Pro Gln
5 10 15

Gly Arg Ile His Gln Ile Glu Tyr Ala Met Glu Ala Val Lys Gln Gly
20 25 30

Ser Ala Thr Val Gly Leu Lys Ser Lys Thr His Ala Val Leu Val Ala
35 40 45

Leu Lys Arg Ala Gln Ser Glu Leu Ala Ala His Gln Lys Lys Ile Leu
50 55 60

His Val Asp Asn His Ile Gly Ile Ser Ile Ala Gly Leu Thr Ala Asp
65 70 75 80

Ala Arg Leu Leu Cys Asn Phe Met Arg Gln Glu Cys Leu Asp Ser Arg
85 90 95

Phe Val Phe Asp Arg Pro Leu Pro Val Ser Arg Leu Val Ser Leu Ile
100 105 110

Gly Ser Lys Thr Gln Ile Pro Thr Gln Arg Tyr Gly Arg Arg Pro Tyr
115 120 125

Gly Val Gly Leu Leu Ile Ala Gly Tyr Asp Asp Met Gly Pro His Ile
130 135 140

Phe Gln Thr Cys Pro Ser Ala Asn Tyr Phe Asp Cys Arg Ala Met Ser
145 150 155 160

Ile Gly Ala Arg Ser Gln Ser Ala Arg Thr Tyr Leu Glu Arg His Met
165 170 175

Ser Glu Phe Met Glu Cys Asn Leu Asn Glu Leu Val Lys His Gly Leu
180 185 190

Arg Ala Leu Arg Glu Thr Leu Pro Ala Glu Gln Asp Leu Thr Thr Lys
195 200 205

Asn Val Ser Ile Gly Ile Val Gly Lys Asp Leu Glu Phe Thr Ile Tyr
210 215 220

Asp Asp Asp Asp Val Ser Pro Phe Leu Glu Gly Leu Glu Glu Arg Pro
225 230 235 240

Gln Arg Lys Ala Gln Pro Ala Gln Pro Ala Asp Glu Pro Ala Glu Lys
245 250 255

Ala Asp Glu Pro Met Glu His
260

<210> 326

<211> 539

<212> PRT

<213> Homo sapiens

<400> 326

Met Pro Glu Asn Val Ala Pro Arg Ser Gly Ala Thr Ala Gly Ala Ala
5 10 15

Gly Gly Arg Gly Lys Gly Ala Tyr Gln Asp Arg Asp Lys Pro Ala Gln
20 25 30

Ile Arg Phe Ser Asn Ile Ser Ala Ala Lys Ala Val Ala Asp Ala Ile
 35 40 45
 Arg Thr Ser Leu Gly Pro Lys Gly Met Asp Lys Met Ile Gln Asp Gly
 50 55 60
 Lys Gly Asp Val Thr Ile Thr Asn Asp Gly Ala Thr Ile Leu Lys Gln
 65 70 75 80
 Met Gln Val Leu His Pro Ala Ala Arg Met Leu Val Glu Leu Ser Lys
 85 90 95
 Ala Gln Asp Ile Glu Ala Gly Asp Gly Thr Thr Ser Val Val Ile Ile
 100 105 110
 Ala Gly Ser Leu Leu Asp Ser Cys Thr Lys Leu Leu Gln Lys Gly Ile
 115 120 125
 His Pro Thr Ile Ile Ser Glu Ser Phe Gln Lys Ala Leu Glu Lys Gly
 130 135 140
 Ile Glu Ile Leu Thr Asp Met Ser Arg Pro Val Glu Leu Ser Asp Arg
 145 150 155 160
 Glu Thr Leu Leu Asn Ser Ala Thr Thr Ser Leu Asn Ser Lys Val Val
 165 170 175
 Ser Gln Tyr Ser Ser Leu Leu Ser Pro Met Ser Val Asn Ala Val Met
 180 185 190
 Lys Val Ile Asp Pro Ala Thr Ala Thr Ser Val Asp Leu Arg Asp Ile
 195 200 205
 Lys Ile Val Lys Lys Leu Gly Gly Thr Ile Asp Asp Cys Glu Leu Val
 210 215 220
 Glu Gly Leu Val Leu Thr Gln Lys Val Ser Asn Ser Gly Ile Thr Arg
 225 230 235 240
 Val Glu Lys Ala Lys Ile Gly Leu Ile Gln Phe Cys Leu Ser Ala Pro
 245 250 255
 Lys Thr Asp Met Asp Asn Gln Ile Val Val Ser Asp Tyr Ala Gln Met
 260 265 270
 Asp Arg Val Leu Arg Glu Glu Arg Ala Tyr Ile Leu Asn Leu Val Lys
 275 280 285
 Gln Ile Lys Lys Thr Gly Cys Asn Val Leu Leu Ile Gln Lys Ser Ile
 290 295 300

Leu Arg Asp Ala Leu Ser Asp Leu Ala Leu His Phe Leu Asn Lys Met
305 310 315 320

Lys Ile Met Val Ile Lys Asp Ile Glu Arg Glu Asp Ile Glu Phe Ile
325 330 335

Cys Lys Thr Ile Gly Thr Lys Pro Val Ala His Ile Asp Gln Phe Thr
340 345 350

Ala Asp Met Leu Gly Ser Ala Glu Leu Ala Glu Glu Val Asn Leu Asn
355 360 365

Gly Ser Gly Lys Leu Leu Lys Ile Thr Gly Cys Ala Ser Pro Gly Lys
370 375 380

Thr Val Thr Ile Val Val Arg Gly Ser Asn Lys Leu Val Ile Glu Glu
385 390 395 400

Ala Glu Arg Ser Ile His Asp Ala Leu Cys Val Ile Arg Cys Leu Val
405 410 415

Lys Lys Arg Ala Leu Ile Ala Gly Gly Gly Ala Pro Glu Ile Glu Leu
420 425 430

Ala Leu Arg Leu Thr Glu Tyr Ser Arg Thr Leu Ser Gly Met Glu Ser
435 440 445

Tyr Cys Val Arg Ala Phe Ala Asp Ala Met Glu Val Ile Pro Ser Thr
450 455 460

Leu Ala Glu Asn Ala Gly Leu Asn Pro Ile Ser Thr Val Thr Glu Leu
465 470 475 480

Arg Asn Arg His Ala Gln Gly Glu Lys Thr Ala Gly Ile Asn Val Arg
485 490 495

Lys Gly Gly Ile Ser Asn Ile Leu Glu Glu Leu Val Val Gln Pro Leu
500 505 510

Leu Val Ser Val Ser Ala Leu Thr Leu Ala Thr Glu Thr Val Arg Ser
515 520 525

Ile Leu Lys Ile Asp Asp Val Val Asn Thr Arg
530 535

<210> 327

<211> 144

<212> PRT

<213> Homo sapiens

Met Ala Phe Thr Phe Ala Ala Phe Cys Tyr Met Leu Ala Leu Leu Leu
5 10 15

Glu Leu Lys Thr Asp Tyr Lys Asn Pro Ile Asp Gln Cys Asn Thr Leu
35 40 45

Met Phe Leu Cys Ala Ala Glu Trp Leu Thr Leu Gly Leu Asn Met Pro
65 70 75 80

Gly Pro Gly Leu Tyr Asp Pro Thr Thr Ile Met Asn Ala Asp Ile Leu
100 105 110

Ala Phe Phe Tyr Tyr Leu Tyr Gly Met Ile Tyr Val Leu Val Ser Ser
130 135 140

<213> Homo sapiens

Met Pro Asn Phe Ser Gly Asn Trp Lys Ile Ile Arg Ser Glu Asn Phe
5 10 15

Ala Val Ala Ala Ala Ser Lys Pro Ala Val Glu Ile Lys Gln Glu Gly
35 40 45

Asn Phe Lys Val Gly Glu Glu Phe Glu Glu Gln Thr Val Asp Gly Arg
65 70 75 80

Val Gln Glu Arg Pro Leu Asp Val Asp Cys Lys Arg Leu Ser Pro Asp
165 170 175

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<210> 330
<211> 826
<212> PRT
<213> Homo sapiens

<400> 330
Met Glu Gly Ala Gly Gly Ala Asn Asp Lys Lys Lys Ile Ser Ser Glu
          5                      10                      15
Arg Arg Lys Glu Lys Ser Arg Asp Ala Ala Arg Ser Arg Arg Ser Lys
          20                      25                      30
Glu Ser Glu Val Phe Tyr Glu Leu Ala His Gln Leu Pro Leu Pro His
          35                      40                      45
Asn Val Ser Ser His Leu Asp Lys Ala Ser Val Met Arg Leu Thr Ile

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50	55	60
Ser Tyr Leu Arg Val Arg Lys Leu Leu Asp Ala Gly Asp Leu Asp Ile		
65	70	75 80
Glu Asp Asp Met Lys Ala Gln Met Asn Cys Phe Tyr Leu Lys Ala Leu		
	85	90 95
Asp Gly Phe Val Met Val Leu Thr Asp Asp Gly Asp Met Ile Tyr Ile		
	100	105 110
Ser Asp Asn Val Asn Lys Tyr Met Gly Leu Thr Gln Phe Glu Leu Thr		
	115	120 125
Gly His Ser Val Phe Asp Phe Thr His Pro Cys Asp His Glu Glu Met		
	130	135 140
Arg Glu Met Leu Thr His Arg Asn Gly Leu Val Lys Lys Gly Lys Glu		
	145	150 155 160
Gln Asn Thr Gln Arg Ser Phe Phe Leu Arg Met Lys Cys Thr Leu Thr		
	165	170 175
Ser Arg Gly Arg Thr Met Asn Ile Lys Ser Ala Thr Trp Lys Val Leu		
	180	185 190
His Cys Thr Gly His Ile His Val Tyr Asp Thr Asn Ser Asn Gln Pro		
	195	200 205
Gln Cys Gly Tyr Lys Lys Pro Pro Met Thr Cys Leu Val Leu Ile Cys		
	210	215 220
Glu Pro Ile Pro His Pro Ser Asn Ile Glu Ile Pro Leu Asp Ser Lys		
	225	230 235 240
Thr Phe Leu Ser Arg His Ser Leu Asp Met Lys Phe Ser Tyr Cys Asp		
	245	250 255
Glu Arg Ile Thr Glu Leu Met Gly Tyr Glu Pro Glu Glu Leu Leu Gly		
	260	265 270
Arg Ser Ile Tyr Glu Tyr Tyr His Ala Leu Asp Ser Asp His Leu Thr		
	275	280 285
Lys Thr His His Asp Met Phe Thr Lys Gly Gln Val Thr Thr Gly Gln		
	290	295 300
Tyr Arg Met Leu Ala Lys Arg Gly Gly Tyr Val Trp Val Glu Thr Gln		
	305	310 315 320
Ala Thr Val Ile Tyr Asn Thr Lys Asn Ser Gln Pro Gln Cys Ile Val		

				325						330					335
Cys	Val	Asn	Tyr	Val	Val	Ser	Gly	Ile	Ile	Gln	His	Asp	Leu	Ile	Phe
			340					345					350		
Ser	Leu	Gln	Gln	Thr	Glu	Cys	Val	Leu	Lys	Pro	Val	Glu	Ser	Ser	Asp
		355					360					365			
Met	Lys	Met	Thr	Gln	Leu	Phe	Thr	Lys	Val	Glu	Ser	Glu	Asp	Thr	Ser
	370					375					380				
Ser	Leu	Phe	Asp	Lys	Leu	Lys	Lys	Glu	Pro	Asp	Ala	Leu	Thr	Leu	Leu
385					390					395					400
Ala	Pro	Ala	Ala	Gly	Asp	Thr	Ile	Ile	Ser	Leu	Asp	Phe	Gly	Ser	Asn
				405					410					415	
Asp	Thr	Glu	Thr	Asp	Asp	Gln	Gln	Leu	Glu	Glu	Val	Pro	Leu	Tyr	Asn
			420					425					430		
Asp	Val	Met	Leu	Pro	Ser	Pro	Asn	Glu	Lys	Leu	Gln	Asn	Ile	Asn	Leu
		435					440					445			
Ala	Met	Ser	Pro	Leu	Pro	Thr	Ala	Glu	Thr	Pro	Lys	Pro	Leu	Arg	Ser
	450					455					460				
Ser	Ala	Asp	Pro	Ala	Leu	Asn	Gln	Glu	Val	Ala	Leu	Lys	Leu	Glu	Pro
465					470					475					480
Asn	Pro	Glu	Ser	Leu	Glu	Leu	Ser	Phe	Thr	Met	Pro	Gln	Ile	Gln	Asp
				485					490					495	
Gln	Thr	Pro	Ser	Pro	Ser	Asp	Gly	Ser	Thr	Arg	Gln	Ser	Ser	Pro	Glu
			500					505						510	
Pro	Asn	Ser	Pro	Ser	Glu	Tyr	Cys	Phe	Tyr	Val	Asp	Ser	Asp	Met	Val
		515					520					525			
Asn	Glu	Phe	Lys	Leu	Glu	Leu	Val	Glu	Lys	Leu	Phe	Ala	Glu	Asp	Thr
	530					535					540				
Glu	Ala	Lys	Asn	Pro	Phe	Ser	Thr	Gln	Asp	Thr	Asp	Leu	Asp	Leu	Glu
545					550					555					560
Met	Leu	Ala	Pro	Tyr	Ile	Pro	Met	Asp	Asp	Asp	Phe	Gln	Leu	Arg	Ser
				565					570					575	
Phe	Asp	Gln	Leu	Ser	Pro	Leu	Glu	Ser	Ser	Ser	Ala	Ser	Pro	Glu	Ser
			580					585					590		
Ala	Ser	Pro	Gln	Ser	Thr	Val	Thr	Val	Phe	Gln	Gln	Thr	Gln	Ile	Gln

595	600	605
Glu Pro Thr Ala Asn Ala Thr Thr Thr Thr Ala Thr Thr Asp Glu Leu 610 615 620		
Lys Thr Val Thr Lys Asp Arg Met Glu Asp Ile Lys Ile Leu Ile Ala 625 630 635 640		
Ser Pro Ser Pro Thr His Ile His Lys Glu Thr Thr Ser Ala Thr Ser 645 650 655		
Ser Pro Tyr Arg Asp Thr Gln Ser Arg Thr Ala Ser Pro Asn Arg Ala 660 665 670		
Gly Lys Gly Val Ile Glu Gln Thr Glu Lys Ser His Pro Arg Ser Pro 675 680 685		
Asn Val Leu Ser Val Ala Leu Ser Gln Arg Thr Thr Val Pro Glu Glu 690 695 700		
Glu Leu Asn Pro Lys Ile Leu Ala Leu Gln Asn Ala Gln Arg Lys Arg 705 710 715 720		
Lys Met Glu His Asp Gly Ser Leu Phe Gln Ala Val Gly Ile Gly Thr 725 730 735		
Leu Leu Gln Gln Pro Asp Asp His Ala Ala Thr Thr Ser Leu Ser Trp 740 745 750		
Lys Arg Val Lys Gly Cys Lys Ser Ser Glu Gln Asn Gly Met Glu Gln 755 760 765		
Lys Thr Ile Ile Leu Ile Pro Ser Asp Leu Ala Cys Arg Leu Leu Gly 770 775 780		
Gln Ser Met Asp Glu Ser Gly Leu Pro Gln Leu Thr Ser Tyr Asp Cys 785 790 795 800		
Glu Val Asn Ala Pro Ile Gln Gly Ser Arg Asn Leu Leu Gln Gly Glu 805 810 815		
Glu Leu Leu Arg Ala Leu Asp Gln Val Asn 820 825		

<210> 331

<211> 92

<212> PRT

<213> Homo sapiens

<400> 331

Met Ala Tyr Arg Gly Gln Gly Gln Lys Val Gln Lys Val Met Val Gln
 5 10 15

Pro Ile Asn Leu Ile Phe Arg Tyr Leu Gln Asn Arg Ser Arg Ile Gln
 20 25 30

Val Trp Leu Tyr Glu Gln Val Asn Met Arg Ile Glu Gly Cys Ile Ile
 35 40 45

Gly Phe Asp Glu Tyr Met Asn Leu Val Leu Asp Asp Ala Glu Glu Ile
 50 55 60

His Ser Lys Thr Lys Ser Arg Lys Gln Leu Gly Arg Ile Met Leu Lys
 65 70 75 80

Gly Asp Asn Ile Thr Leu Leu Gln Ser Val Ser Asn
 85 90

<210> 332

<211> 235

<212> PRT

<213> Homo sapiens

<400> 332

Met Asp Pro Ala Arg Pro Leu Gly Leu Ser Ile Leu Leu Leu Phe Leu
 5 10 15

Thr Glu Ala Ala Leu Gly Asp Ala Ala Gln Glu Pro Thr Gly Asn Asn
 20 25 30

Ala Glu Ile Cys Leu Leu Pro Leu Asp Tyr Gly Pro Cys Arg Ala Leu
 35 40 45

Leu Leu Arg Tyr Tyr Tyr Asp Arg Tyr Thr Gln Ser Cys Arg Gln Phe
 50 55 60

Leu Tyr Gly Gly Cys Glu Gly Asn Ala Asn Asn Phe Tyr Thr Trp Glu
 65 70 75 80

Ala Cys Asp Asp Ala Cys Trp Arg Ile Glu Lys Val Pro Lys Val Cys
 85 90 95

Arg Leu Gln Val Ser Val Asp Asp Gln Cys Glu Gly Ser Thr Glu Lys
 100 105 110

Tyr Phe Phe Asn Leu Ser Ser Met Thr Cys Glu Lys Phe Phe Ser Gly
 115 120 125

Gly Cys His Arg Asn Arg Ile Glu Asn Arg Phe Pro Asp Glu Ala Thr
 130 135 140

Cys Met Gly Phe Cys Ala Pro Lys Lys Ile Pro Ser Phe Cys Tyr Ser
145 150 155 160

Pro Lys Asp Glu Gly Leu Cys Ser Ala Asn Val Thr Arg Tyr Tyr Phe
165 170 175

Asn Pro Arg Tyr Arg Thr Cys Asp Ala Phe Thr Tyr Thr Gly Cys Gly
180 185 190

Gly Asn Asp Asn Asn Phe Val Ser Arg Glu Asp Cys Lys Arg Ala Cys
195 200 205

Ala Lys Ala Leu Lys Lys Lys Lys Lys Met Pro Lys Leu Arg Phe Ala
210 215 220

Ser Arg Ile Arg Lys Ile Arg Lys Lys Gln Phe
225 230 235

<210> 333

<211> 291

<212> PRT

<213> Homo sapiens

<400> 333

Met Gln Arg Ala Arg Pro Thr Leu Trp Ala Ala Ala Leu Thr Leu Leu
5 10 15

Val Leu Leu Arg Gly Pro Pro Val Ala Arg Ala Gly Ala Ser Ser Gly
20 25 30

Gly Leu Gly Pro Val Val Arg Cys Glu Pro Cys Asp Ala Arg Ala Leu
35 40 45

Ala Gln Cys Ala Pro Pro Pro Ala Val Cys Ala Glu Leu Val Arg Glu
50 55 60

Pro Gly Cys Gly Cys Cys Leu Thr Cys Ala Leu Ser Glu Gly Gln Pro
65 70 75 80

Cys Gly Ile Tyr Thr Glu Arg Cys Gly Ser Gly Leu Arg Cys Gln Pro
85 90 95

Ser Pro Asp Glu Ala Arg Pro Leu Gln Ala Leu Leu Asp Gly Arg Gly
100 105 110

Leu Cys Val Asn Ala Ser Ala Val Ser Arg Leu Arg Ala Tyr Leu Leu
115 120 125

Pro Ala Pro Pro Ala Pro Gly Asn Ala Ser Glu Ser Glu Glu Asp Arg
130 135 140

Ser Ala Gly Ser Val Glu Ser Pro Ser Val Ser Ser Thr His Arg Val
145 150 155 160

Ser Asp Pro Lys Phe His Pro Leu His Ser Lys Ile Ile Ile Ile Lys
165 170 175

Lys Gly His Ala Lys Asp Ser Gln Arg Tyr Lys Val Asp Tyr Glu Ser
180 185 190

Gln Ser Thr Asp Thr Gln Asn Phe Ser Ser Glu Ser Lys Arg Glu Thr
195 200 205

Glu Tyr Gly Pro Cys Arg Arg Glu Met Glu Asp Thr Leu Asn His Leu
210 215 220

Lys Phe Leu Asn Val Leu Ser Pro Arg Gly Val His Ile Pro Asn Cys
225 230 235 240

Asp Lys Lys Gly Phe Tyr Lys Lys Lys Gln Cys Arg Pro Ser Lys Gly
245 250 255

Arg Lys Arg Gly Phe Cys Trp Cys Val Asp Lys Tyr Gly Gln Pro Leu
260 265 270

Pro Gly Tyr Thr Thr Lys Gly Lys Glu Asp Val His Cys Tyr Ser Met
275 280 285

Gln Ser Lys
290

<210> 334

<211> 582

<212> PRT

<213> Homo sapiens

<400> 334

Glu Ser Lys Gly Ala Ser Ser Cys Arg Leu Leu Phe Cys Leu Leu Ile
5 10 15

Ser Ala Thr Val Phe Arg Pro Gly Leu Gly Trp Tyr Thr Val Asn Ser
20 25 30

Ala Tyr Gly Asp Thr Ile Ile Ile Pro Cys Arg Leu Asp Val Pro Gln
35 40 45

Asn Leu Met Phe Gly Lys Trp Lys Tyr Glu Lys Pro Asp Gly Ser Pro
50 55 60

Val Phe Ile Ala Phe Arg Ser Ser Thr Lys Lys Ser Val Gln Tyr Asp

65		70		75		80
Asp Val Pro Glu Tyr Lys Asp Arg Leu Asn Leu Ser Glu Asn Tyr Thr	85	90	95			
Leu Ser Ile Ser Asn Ala Arg Ile Ser Asp Glu Lys Arg Phe Val Cys	100	105	110			
Met Leu Val Thr Glu Asp Asn Val Phe Glu Ala Pro Thr Ile Val Lys	115	120	125			
Val Phe Lys Gln Pro Ser Lys Pro Glu Ile Val Ser Lys Ala Leu Phe	130	135	140			
Leu Glu Thr Glu Gln Leu Lys Lys Leu Gly Asp Cys Ile Ser Glu Asp	145	150	155	160		
Ser Tyr Pro Asp Gly Asn Ile Thr Trp Tyr Arg Asn Gly Lys Val Leu	165	170	175			
His Pro Leu Glu Gly Ala Val Val Ile Ile Phe Lys Lys Glu Met Asp	180	185	190			
Pro Val Thr Gln Leu Tyr Thr Met Thr Ser Thr Leu Glu Tyr Lys Thr	195	200	205			
Thr Lys Ala Asp Ile Gln Met Pro Phe Thr Cys Ser Val Thr Tyr Tyr	210	215	220			
Gly Pro Ser Gly Gln Lys Thr Ile His Ser Glu Gln Ala Val Phe Asp	225	230	235	240		
Ile Tyr Tyr Pro Thr Glu Gln Val Thr Ile Gln Val Leu Pro Pro Lys	245	250	255			
Asn Ala Ile Lys Glu Gly Asp Asn Ile Thr Leu Lys Cys Leu Gly Asn	260	265	270			
Gly Asn Pro Pro Pro Glu Glu Phe Leu Phe Tyr Leu Pro Gly Gln Pro	275	280	285			
Glu Gly Ile Arg Ser Ser Asn Thr Tyr Thr Leu Thr Asp Val Arg Arg	290	295	300			
Asn Ala Thr Gly Asp Tyr Lys Cys Ser Leu Ile Asp Lys Lys Ser Met	305	310	315	320		
Ile Ala Ser Thr Ala Ile Thr Val His Tyr Leu Asp Leu Ser Leu Asn	325	330	335			
Pro Ser Gly Glu Val Thr Arg Gln Ile Gly Asp Ala Leu Pro Val Ser						

340	345	350
Cys Thr Ile Ser Ala Ser Arg Asn Ala Thr Val Val Trp Met Lys Asp		
355	360	365
Asn Ile Arg Leu Arg Ser Ser Pro Ser Phe Ser Ser Leu His Tyr Gln		
370	375	380
Asp Ala Gly Asn Tyr Val Cys Glu Thr Ala Leu Gln Glu Val Glu Gly		
385	390	395 400
Leu Lys Lys Arg Glu Ser Leu Thr Leu Ile Val Glu Gly Lys Pro Gln		
405	410	415
Ile Lys Met Thr Lys Lys Thr Asp Pro Ser Gly Leu Ser Lys Thr Ile		
420	425	430
Ile Cys His Val Glu Gly Phe Pro Lys Pro Ala Ile Gln Trp Thr Ile		
435	440	445
Thr Gly Ser Gly Ser Val Ile Asn Gln Thr Glu Glu Ser Pro Tyr Ile		
450	455	460
Asn Gly Arg Tyr Tyr Ser Lys Ile Ile Ile Ser Pro Glu Glu Asn Val		
465	470	475 480
Thr Leu Thr Cys Thr Ala Glu Asn Gln Leu Glu Arg Thr Val Asn Ser		
485	490	495
Leu Asn Val Ser Ala Ile Ser Ile Pro Glu His Asp Glu Ala Asp Glu		
500	505	510
Ile Ser Asp Glu Asn Arg Glu Lys Val Asn Asp Gln Ala Lys Leu Ile		
515	520	525
Val Gly Ile Val Val Gly Leu Leu Leu Ala Ala Leu Val Ala Gly Val		
530	535	540
Val Tyr Trp Leu Tyr Met Lys Lys Ser Lys Thr Ala Ser Lys His Val		
545	550	555 560
Asn Lys Asp Leu Gly Asn Met Glu Glu Asn Lys Lys Leu Glu Glu Asn		
565	570	575
Asn His Lys Thr Glu Ala		
580		

<210> 335

<211> 709

<212> PRT

<213> Homo sapiens

<400> 335

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Met Ala Glu Val Glu Asp Gln Ala Ala Arg Asp Met Lys Arg Leu Glu
      5                      10                      15

Glu Lys Asp Lys Glu Arg Lys Asn Val Lys Gly Ile Arg Asp Asp Ile
      20                      25                      30

Glu Glu Glu Asp Asp Gln Glu Ala Tyr Phe Arg Tyr Met Ala Glu Asn
      35                      40                      45

Pro Thr Ala Gly Val Val Gln Glu Glu Glu Glu Asp Asn Leu Glu Tyr
      50                      55                      60

Asp Ser Asp Gly Asn Pro Ile Ala Pro Thr Lys Lys Ile Ile Asp Pro
      65                      70                      75                      80

Leu Pro Pro Ile Asp His Ser Glu Ile Asp Tyr Pro Pro Phe Glu Lys
      85                      90                      95

Asn Phe Tyr Asn Glu His Glu Glu Ile Thr Asn Leu Thr Pro Gln Gln
      100                     105                     110

Leu Ile Asp Leu Arg His Lys Leu Asn Leu Arg Val Ser Gly Ala Ala
      115                     120                     125

Pro Pro Arg Pro Gly Ser Ser Phe Ala His Phe Gly Phe Asp Glu Gln
      130                     135                     140

Leu Met His Gln Ile Arg Lys Ser Glu Tyr Thr Gln Pro Thr Pro Ile
      145                     150                     155                     160

Gln Cys Gln Gly Val Pro Val Ala Leu Ser Gly Arg Asp Met Ile Gly
      165                     170                     175

Ile Ala Lys Thr Gly Ser Gly Lys Thr Ala Ala Phe Ile Trp Pro Met
      180                     185                     190

Leu Ile His Ile Met Asp Gln Lys Glu Leu Glu Pro Gly Asp Gly Pro
      195                     200                     205

Ile Ala Val Ile Val Cys Pro Thr Arg Glu Leu Cys Gln Gln Ile His
      210                     215                     220

Ala Glu Cys Lys Arg Phe Gly Lys Ala Tyr Asn Leu Arg Ser Val Ala
      225                     230                     235                     240

Val Tyr Gly Gly Gly Ser Met Trp Glu Gln Ala Lys Ala Leu Gln Glu
      245                     250                     255

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Gly Lys Lys Leu Asn Ile Gly Gly Gly Gly Leu Gly Tyr Arg Glu Arg
 530 535 540

Pro Gly Leu Gly Ser Glu Asn Met Asp Arg Gly Asn Asn Asn Val Met
 545 550 555 560

Ser Asn Tyr Glu Ala Tyr Lys Pro Ser Thr Gly Ala Met Gly Asp Arg
 565 570 575

Leu Thr Ala Met Lys Ala Ala Phe Gln Ser Gln Tyr Lys Ser His Phe
 580 585 590

Val Ala Ala Ser Leu Ser Asn Gln Lys Ala Gly Ser Ser Ala Ala Gly
 595 600 605

Ala Ser Gly Trp Thr Ser Ala Gly Ser Leu Asn Ser Val Pro Thr Asn
 610 615 620

Ser Ala Gln Gln Gly His Asn Ser Pro Asp Ser Pro Val Thr Ser Ala
 625 630 635 640

Ala Lys Gly Ile Pro Gly Phe Gly Asn Thr Gly Asn Ile Ser Gly Ala
 645 650 655

Pro Val Thr Tyr Pro Ser Ala Gly Ala Gln Gly Val Asn Asn Thr Ala
 660 665 670

Ser Gly Asn Asn Ser Arg Glu Gly Thr Gly Gly Ser Asn Gly Lys Arg
 675 680 685

Glu Arg Tyr Thr Glu Asn Arg Gly Ser Ser Pro Ser Gln Ser Arg Arg
 690 695 700

Asp Trp Gln Ser Ala
 705

<210> 336

<211> 480

<212> PRT

<213> Homo sapiens

<400> 336

Met Ile Arg Ala Ala Pro Pro Pro Leu Phe Leu Leu Leu Leu Leu
 5 10 15

Leu Leu Leu Val Ser Trp Ala Ser Arg Gly Glu Ala Ala Pro Asp Gln
 20 25 30

Asp Glu Ile Gln Arg Leu Pro Gly Leu Ala Lys Gln Pro Ser Phe Arg
 35 40 45

Gln Tyr Ser Gly Tyr Leu Lys Ser Ser Gly Ser Lys His Leu His Tyr
 50 55 60

Trp Phe Val Glu Ser Gln Lys Asp Pro Glu Asn Ser Pro Val Val Leu
 65 70 75 80

Trp Leu Asn Gly Gly Pro Gly Cys Ser Ser Leu Asp Gly Leu Leu Thr
 85 90 95

Glu His Gly Pro Phe Leu Val Gln Pro Asp Gly Val Thr Leu Glu Tyr
 100 105 110

Asn Pro Tyr Ser Trp Asn Leu Ile Ala Asn Val Leu Tyr Leu Glu Ser
 115 120 125

Pro Ala Gly Val Gly Phe Ser Tyr Ser Asp Asp Lys Phe Tyr Ala Thr
 130 135 140

Asn Asp Thr Glu Val Ala Gln Ser Asn Phe Glu Ala Leu Gln Asp Phe
 145 150 155 160

Phe Arg Leu Phe Pro Glu Tyr Lys Asn Asn Lys Leu Phe Leu Thr Gly
 165 170 175

Glu Ser Tyr Ala Gly Ile Tyr Ile Pro Thr Leu Ala Val Leu Val Met
 180 185 190

Gln Asp Pro Ser Met Asn Leu Gln Gly Leu Ala Val Gly Asn Gly Leu
 195 200 205

Ser Ser Tyr Glu Gln Asn Asp Asn Ser Leu Val Tyr Phe Ala Tyr Tyr
 210 215 220

His Gly Leu Leu Gly Asn Arg Leu Trp Ser Ser Leu Gln Thr His Cys
 225 230 235 240

Cys Ser Gln Asn Lys Cys Asn Phe Tyr Asp Asn Lys Asp Leu Glu Cys
 245 250 255

Val Thr Asn Leu Gln Glu Val Ala Arg Ile Val Gly Asn Ser Gly Leu
 260 265 270

Asn Ile Tyr Asn Leu Tyr Ala Pro Cys Ala Gly Gly Val Pro Ser His
 275 280 285

Phe Arg Tyr Glu Lys Asp Thr Val Val Val Gln Asp Leu Gly Asn Ile
 290 295 300

Phe Thr Arg Leu Pro Leu Lys Arg Met Trp His Gln Ala Leu Leu Arg
 305 310 315 320

Ser Gly Asp Lys Val Arg Met Asp Pro Pro Cys Thr Asn Thr Thr Ala
 325 330 335

Ala Ser Thr Tyr Leu Asn Asn Pro Tyr Val Arg Lys Ala Leu Asn Ile
 340 345 350

Pro Glu Gln Leu Pro Gln Trp Asp Met Cys Asn Phe Leu Val Asn Leu
 355 360 365

Gln Tyr Arg Arg Leu Tyr Arg Ser Met Asn Ser Gln Tyr Leu Lys Leu
 370 375 380

Leu Ser Ser Gln Lys Tyr Gln Ile Leu Leu Tyr Asn Gly Asp Val Asp
 385 390 395 400

Met Ala Cys Asn Phe Met Gly Asp Glu Trp Phe Val Asp Ser Leu Asn
 405 410 415

Gln Lys Met Glu Val Gln Arg Arg Pro Trp Leu Val Lys Tyr Gly Asp
 420 425 430

Ser Gly Glu Gln Ile Ala Gly Phe Val Lys Glu Phe Ser His Ile Ala
 435 440 445

Phe Leu Thr Ile Lys Gly Ala Gly His Met Val Pro Thr Asp Lys Pro
 450 455 460

Leu Ala Ala Phe Thr Met Phe Ser Arg Phe Leu Asn Lys Gln Pro Tyr
 465 470 475 480

<210> 337

<211> 543

<212> PRT

<213> Homo sapiens

<400> 337

Met Ala Ala Ala Lys Ala Glu Met Gln Leu Met Ser Pro Leu Gln Ile
 5 10 15

Ser Asp Pro Phe Gly Ser Phe Pro His Ser Pro Thr Met Asp Asn Tyr
 20 25 30

Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly Ala Pro Gln Phe
 35 40 45

Leu Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser Asn Ser Ser Ser
 50 55 60

Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Gly Ser Asn Ser Ser

65		70		75		80
Ser Ser Ser Ser	Thr Phe Asn Pro Gln Ala Asp Thr Gly Glu Gln Pro					
	85		90		95	
Tyr Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile Ser Leu Asn Asn						
	100		105		110	
Glu Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln Thr Thr Arg Leu						
	115		120		125	
Pro Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu Pro Ala Pro Asn						
	130		135		140	
Ser Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser Leu Val Ser Gly						
	145		150		155	160
Leu Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser Ser Ala Pro Ser						
		165		170		175
Pro Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro Pro Leu Ser Cys						
	180		185		190	
Ala Val Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser Ala Ala Pro Thr						
	195		200		205	
Phe Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala						
	210		215		220	
Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr						
	225		230		235	240
Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu						
	245		250		255	
Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr Pro Asp Gln Lys						
	260		265		270	
Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro Ser Leu Thr Pro						
	275		280		285	
Leu Ser Thr Ile Lys Ala Phe Ala Thr Gln Ser Gly Ser Gln Asp Leu						
	290		295		300	
Lys Ala Leu Asn Thr Ser Tyr Gln Ser Gln Leu Ile Lys Pro Ser Arg						
	305		310		315	320
Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg						
	325		330		335	
Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser						

340	345	350
Asp Glu Leu Thr Arg His Ile	Arg Ile His Thr Gly Gln Lys Pro Phe	
355	360	365
Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg	Ser Asp His Leu Thr	
370	375	380
Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile		
385	390	395 400
Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Arg Lys Arg His Thr Lys		
405	410	415
Ile His Leu Arg Gln Lys Asp Lys Lys Ala Asp Lys Ser Val Val Ala		
420	425	430
Ser Ser Ala Thr Ser Ser Leu Ser Ser Tyr Pro Ser Pro Val Ala Thr		
435	440	445
Ser Tyr Pro Ser Pro Val Thr Thr Ser Tyr Pro Ser Pro Ala Thr Thr		
450	455	460
Ser Tyr Pro Ser Pro Val Pro Thr Ser Phe Ser Ser Pro Gly Ser Ser		
465	470	475 480
Thr Tyr Pro Ser Pro Val His Ser Gly Phe Pro Ser Pro Ser Val Ala		
485	490	495
Thr Thr Tyr Ser Ser Val Pro Pro Ala Phe Pro Ala Gln Val Ser Ser		
500	505	510
Phe Pro Ser Ser Ala Val Thr Asn Ser Phe Ser Ala Ser Thr Gly Leu		
515	520	525
Ser Asp Met Thr Ala Thr Phe Ser Pro Arg Thr Ile Glu Ile Cys		
530	535	540

<210> 338

<211> 148

<212> PRT

<213> Homo sapiens

<400> 338

Pro Pro Ala Thr Ser Tyr Ala Pro Ser Asp Val Pro Ser Gly Val Ala
5 10 15

Leu Phe Leu Thr Ile Pro Phe Ala Phe Phe Leu Pro Glu Leu Ile Phe
20 25 30

Gly Phe Leu Val Trp Thr Met Val Ala Ala Thr His Ile Val Tyr Pro
 35 40 45

Leu Leu Gln Gly Trp Val Met Tyr Val Ser Leu Thr Ser Phe Leu Ile
 50 55 60

Ser Leu Met Phe Leu Leu Ser Tyr Leu Phe Gly Phe Tyr Lys Arg Phe
 65 70 75 80

Glu Ser Trp Arg Val Leu Asp Ser Leu Tyr His Gly Thr Thr Gly Ile
 85 90 95

Leu Tyr Met Ser Ala Ala Val Leu Gln Val His Ala Thr Ile Val Ser
 100 105 110

Glu Lys Leu Leu Asp Pro Arg Ile Tyr Tyr Ile Asn Ser Ala Ala Ser
 115 120 125

Phe Phe Ala Phe Ile Ala Thr Leu Leu Tyr Ile Leu His Ala Phe Ser
 130 135 140

Ile Tyr Tyr His
 145

<210> 339

<211> 196

<212> PRT

<213> Homo sapiens

<400> 339

Met Pro Gly Met Phe Phe Ser Ala Asn Pro Lys Glu Leu Lys Gly Thr
 5 10 15

Thr His Ser Leu Leu Asp Asp Lys Met Gln Lys Arg Arg Pro Lys Thr
 20 25 30

Phe Gly Met Asp Met Lys Ala Tyr Leu Arg Ser Met Ile Pro His Leu
 35 40 45

Glu Ser Gly Met Lys Ser Ser Lys Ser Lys Asp Val Leu Ser Ala Ala
 50 55 60

Glu Val Met Gln Trp Ser Gln Ser Leu Glu Lys Leu Leu Ala Asn Gln
 65 70 75 80

Thr Gly Gln Asn Val Phe Gly Ser Phe Leu Lys Ser Glu Phe Ser Glu
 85 90 95

Glu Asn Ile Glu Phe Trp Leu Ala Cys Glu Asp Tyr Lys Lys Thr Glu
 100 105 110

Ser Asp Leu Leu Pro Cys Lys Ala Glu Glu Ile Tyr Lys Ala Phe Val
 115 120 125

His Ser Asp Ala Ala Lys Gln Ile Asn Ile Asp Phe Arg Thr Arg Glu
 130 135 140

Ser Thr Ala Lys Lys Ile Lys Ala Pro Thr Pro Thr Cys Phe Asp Glu
 145 150 155 160

Ala Gln Lys Val Ile Tyr Thr Leu Met Glu Lys Asp Ser Tyr Pro Arg
 165 170 175

Phe Leu Lys Ser Asp Ile Tyr Leu Asn Leu Leu Asn Asp Leu Gln Ala
 180 185 190

Asn Ser Leu Lys
 195

<210> 340

<211> 316

<212> PRT

<213> Homo sapiens

<400> 340

Met Ala Thr Phe Val Glu Leu Ser Thr Lys Ala Lys Met Pro Ile Val
 5 10 15

Gly Leu Gly Thr Trp Lys Ser Pro Leu Gly Lys Val Lys Glu Ala Val
 20 25 30

Lys Val Ala Ile Asp Ala Gly Tyr Arg His Ile Asp Cys Ala Tyr Val
 35 40 45

Tyr Gln Asn Glu His Glu Val Gly Glu Ala Ile Gln Glu Lys Ile Gln
 50 55 60

Glu Lys Ala Val Lys Arg Glu Asp Leu Phe Ile Val Ser Lys Leu Trp
 65 70 75 80

Pro Thr Phe Phe Glu Arg Pro Leu Val Arg Lys Ala Phe Glu Lys Thr
 85 90 95

Leu Lys Asp Leu Lys Leu Ser Tyr Leu Asp Val Tyr Leu Ile His Trp
 100 105 110

Pro Gln Gly Phe Lys Ser Gly Asp Asp Leu Phe Pro Lys Asp Asp Lys
 115 120 125

Gly Asn Ala Ile Gly Gly Lys Ala Thr Phe Leu Asp Ala Trp Glu Ala

130	135	140
Met Glu Glu Leu Val Asp Glu Gly Leu Val Lys Ala Leu Gly Val Ser		
145	150	155 160
Asn Phe Ser His Phe Gln Ile Glu Lys Leu Leu Asn Lys Pro Gly Leu		
	165	170 175
Lys Tyr Lys Pro Val Thr Asn Gln Val Glu Cys His Pro Tyr Leu Thr		
	180	185 190
Gln Glu Lys Leu Ile Gln Tyr Cys His Ser Lys Gly Ile Thr Val Thr		
	195	200 205
Ala Tyr Ser Pro Leu Gly Ser Pro Asp Arg Pro Trp Ala Lys Pro Glu		
	210	215 220
Asp Pro Ser Leu Leu Glu Asp Pro Lys Ile Lys Glu Ile Ala Ala Lys		
	225	230 235 240
His Lys Lys Thr Ala Ala Gln Val Leu Ile Arg Phe His Ile Gln Arg		
	245	250 255
Asn Val Ile Val Ile Pro Lys Ser Val Thr Pro Ala Arg Ile Val Glu		
	260	265 270
Asn Ile Gln Val Phe Asp Phe Lys Leu Ser Asp Glu Glu Met Ala Thr		
	275	280 285
Ile Leu Ser Phe Asn Arg Asn Trp Arg Ala Cys Asn Val Leu Gln Ser		
	290	295 300
Ser His Leu Glu Asp Tyr Pro Phe Asn Ala Glu Tyr		
	305	310 315

<210> 341

<211> 422

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(422)

<223> n = A,T,C or G

<400> 341

gatganattn	ttncnagaga	gaggaagang	ctattcagtt	ggatgggatt	aaatgcatca	60
caaataagag	aacttagaga	gaagtcggaa	aagtttgctt	tccaagcccg	aagttaacag	120
aatgatgaaa	cttatcatca	attcattgta	taaaaataaa	gagattttcc	tgagagaact	180
gatttcaaat	gcttctgatg	ctttagataa	gataaggcta	atatcactga	ctgatgaaaa	240
tgctctttct	ggaaatgagg	aactaacagt	caaaattaag	tgtgataagg	agaagacctg	300

```

ctgcatgtca cagacaccgg tgtaggaatg accagagaag agttgggttaa aaaccttggt 360
accatagcca aatctgggac aagcgagttt ttaaacaaaa tgactgaagc acaggaagat 420
gg 422

```

```

<210> 342
<211> 472
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(472)
<223> n = A,T,C or G

```

```

<400> 342
ctggagaagg tgtgcagggg aaaccctgct gatgtcaccg aggccagggt gtctttctac 60
tcgggacact cttcctttgg gatgtactgc atgggtgtct tggcgctgna tgtgcaggca 120
cgactctgtt ggaagtgggc acggctgctg cgaccacag tccagttctt cctggtggcc 180
tttgccctct acgtgggcta caccgcgctg tctgattaca aacaccactg gagcgatgtc 240
cttggtggcc tctgcagggg ggcactggtg gctgccctca ctgtctgcta catctcagac 300
ttcctcaaag cccgaccccc acagcactgt ctgaaggagg aggagctgga acggaagccc 360
agcctgtcac tgacgttgac cctgggagag gctgaccaca accactatgg ataccgcac 420
tcctcctcct gaggccggac cccgcccagg caggagagcta ctgtgagtcc ag 472

```

```

<210> 343
<211> 139
<212> DNA
<213> Homo sapien

```

```

<400> 343
gtcctgggcc ttccccttcc ctcaagccag ggctcctcct cctgtcgtgg gctcattgtg 60
accactggcc tctctacagc acggcctgtg gcctgttcaa ggcagaacca cgacccttga 120
ctcccgggtg gggaggtgg 139

```

```

<210> 344
<211> 235
<212> DNA
<213> Homo sapien

```

```

<400> 344
ctgcgggctc agcacagtag acatgactgg gatccccacc ttggacaacc tccagaaggg 60
agtccaatth gctctcaagt accagtcgct gggccagtgt gtttacgtgc attgtaaggc 120
tgggcgctcc aggagtgcc ctatggtggc agcatacctg attcaggtgc acaaatggag 180
tccagaggag gctgtaagag ccatcgccaa gatccggtca tacatccaca tcagg 235

```

```

<210> 345
<211> 458
<212> DNA
<213> Homo sapien

```

```

<400> 345

```

ctgtaagggtg	ctattcagtc	ctgtgaccct	tattttggaa	tgctcttcat	tactgttgct	60
ctgttttgtg	acttcctggg	aaaccgccta	ctttggtgtg	gtgtcacctt	gagctgtgca	120
cataggacac	cagttttgac	ttaacctaac	aggcagtttt	tatctctagc	tttttcaagc	180
caggtattga	gcagtttctt	ggccaatggc	ctgagaaacc	acctgtccct	gtcaaggggt	240
gattttattg	gttttaagtg	gggaagtaat	cccatgtact	tatttcttaa	atacctagga	300
agttcttctt	ggtggctcct	cttggccctc	ccctctttct	cccccaacc	accatcctgc	360
aaggcaagga	atggcctctc	cctccacaga	ggcaacggct	gcagagggag	cactgtggct	420
gccatcccag	ttcctcttca	aagccaaaca	gacacgcg			458

<210> 346

<211> 525

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(525)

<223> n = A,T,C or G

<400> 346

ccagagcaca	acgcctcacc	atggactgga	cctggaggat	ntctttnng	gtggcagcag	60
ccacaggtgt	ccactcccaa	gcccacttg	tgcagtctgg	ggctgaggag	aagaagcctg	120
gggcctcagt	gactatttct	tgtaggctt	ctggatatat	ncttactaaa	tatactttac	180
attgggtgcg	ccaggccccc	cccggaacaa	gacctgaatg	ggtgggatgg	atcaacactg	240
gcattgatac	cgttaaatat	tcacagaagt	ttcaggacag	agtctccatt	acctgggact	300
catccgcgac	cacagnctac	ctgnanntga	gtagcctgga	atccgaagac	acggctgtgt	360
attactgtgc	gagacttang	gcccgttcgc	tgtggtggga	cttaatgacg	cttttgacat	420
ctgggggcaa	gggacagtgg	tcaccgtctc	ttcanggagt	gcattcgccc	caaccctttt	480
ccccctctct	cctgtgaaga	attccccgnc	ggatacgagc	agcgt		525

<210> 347

<211> 423

<212> DNA

<213> Homo sapien

<400> 347

ccagacgctg	acttgtttct	gagtccttaa	gcaggaagga	tttgaaatcc	tggagcttgg	60
cagtcttgct	cttcacctct	aagccaatgt	tgacccttc	atctataaag	tccacaactc	120
tccggaagtc	atcctcacgg	aactgtcgag	aagttaaggc	tggggcccca	agccgcaggc	180
cgcccggtgt	gatggcactt	cggctctccag	gacaggtgtt	cttggtggca	gtgatggata	240
caagctctag	cacccgctca	gcccagctc	catccaggcc	cttgggcccgc	aggtccacca	300
gcaccaggtg	gttgctcagta	ccacctgata	ccagtgaagta	gcctcgctct	agcagggcat	360
ctgccatggc	ccgagcattc	ttcagaacct	gcagggagta	ctcccggaac	atgggggtgc	420
agg						423

<210> 348

<211> 513

<212> DNA

<213> Homo sapien

<400> 348

cctctaggcc	tgatgctctc	agaggcaata	gaagaaaagt	aaaaggaagg	tctcacttca	60
cagacaatga	aaccttccta	acctcttcc	ccactaccca	caactcccta	cactgccaat	120
ctaaataaaa	agaggacaat	gcctgagtg	gagatacaca	tacacacaca	cacatacaca	180
cacacacacg	cacagcttcc	tttcagccaa	agaactgcaa	aatccttccc	cggaaggagg	240
acaactggca	acaccaatca	aggcttggtg	gtctaagggtg	atggctggaa	tcatgtgaga	300
ctggtaaaaa	tccagggaga	aaatgtttca	ccttcagctc	attcccaagt	ctctatgaag	360
cccgcacac	ttccacatag	gggaactgtg	gctctggggg	cagcctctgc	agctactcag	420
aataggtggg	aggaggggct	ggctttgagg	ctgccttagc	catgaggctc	tttgcctagg	480
aatagctgga	gatgggagct	gcagggggct	cag			513

<210> 349

<211> 231

<212> DNA

<213> Homo sapien

<400> 349

ccttatttct	cttgtccttt	cgtacagga	ggaatttgaa	gtagatagaa	accgacctgg	60
attactccgg	tctgaactca	gatcacgtag	gactttaatc	gttgaacaaa	cgaaccttta	120
atagcggtg	caccatcggg	atgtcctgat	ccaacatcga	ggcgtaaac	cctattgttg	180
atatggactc	tagagtagga	ttgcgctgtt	atccctaggg	taacttgttc	c	231

<210> 350

<211> 341

<212> DNA

<213> Homo sapien

<400> 350

ctgcccagg	gcgttcgtaa	cgggaatgcc	gaagcgtggg	aaaaagggag	cggtggcgga	60
agacggggat	gagctcagga	cagagccaga	ggccaagaag	agtaagacgg	ccgcaaagaa	120
aaatgacaaa	gaggcagcag	gagagggccc	agccctgtat	gaggaccccc	cagatcagaa	180
aacctacccc	agtggcaaac	ctgccacacc	caagatctgc	tcttggaatg	tggatgggct	240
tcgagcctgg	attaagaaga	aaggattaga	ttgggtaaag	gaagaagccc	cagatatact	300
gtgccttcaa	gagaccaa	gttcagagaa	caaactacca	g		341

<210> 351

<211> 256

<212> DNA

<213> Homo sapien

<400> 351

ggcgttgggg	acggttgtag	gacgtggctc	tttattcgtg	agttttccat	ttacctccgc	60
tgaacctaga	gcttcagacg	ccctatggcg	tccgcctcga	cccaaccggc	ggccttgagc	120
gctgagcaag	caaaggtggt	cctcgcggag	gtgatccagg	cgttctccgc	cccggagaat	180
gcagtgcgca	tggacgaggc	tcgggataac	gcctgcaacg	acatgggtaa	gatgctgcaa	240
ttcgtgctgc	ccgtgg					256

<210> 352

<211> 368

<212> DNA

<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(368)
 <223> n = A,T,C or G

<400> 352
 cctttcttgt aagtgaagaa naaggaatgc agcaaagaag agttcgacat tggagtcctt 60
 agttccatca ggatcccatt cgcagccttt agcatcatgt agaagcaaac tgcacctatg 120
 gctgagatag gtgcaatgac ctacaagatt ttgtgttttc tagctgtcca ggaaaagcca 180
 tcttcagtct tgctgacagt caaagagcaa gtgaaacccat ttccagccta aactacataa 240
 aagcagccga accaatgatt aaagacctct aagggtccat aatcatcatt aaatatgccc 300
 aaactcattg tgacttttta ttttatatac aggattaaaa tcaacattaa atcatcttat 360
 ttacatgg 368

<210> 353
 <211> 368
 <212> DNA
 <213> Homo sapien

<400> 353
 ctgaggggtg gcagtaagca atgaggatgg gctataaagc tgttaactgg ctaagggcca 60
 tccttgggca ggcatttcag acacatctgt agagagggca gtagcatctc cgataggcca 120
 gctctgaagg aagcttaatg ctttaatacag tcacactgca taaattagct tagaatgctc 180
 tcttgggtaa aaaatattaa tagtgtatat gcacttgaag agcaaaattc ctcaagaaaa 240
 aaagtttaat agcaaggagt ttccatcagt cccggctctt gtgaggatta ccacaacaaa 300
 cacttaaaaag gatacaacag gtacttatta aatgctgcct tgccttttac ctcttccttt 360
 tttttttt 368

<210> 354
 <211> 380
 <212> DNA
 <213> Homo sapien

<400> 354
 ccatggcttc tcaccagac agtctttctg ggcaacttgg ggaagcccct gttctgctca 60
 agtctcacc catggaagag gtgggggaag ggggccttgg tttttcagga agacaggttg 120
 gagagcacga gtcactacaa agcagtaaaa gtgaatggtg tctccagggg ctgggtccag 180
 aacaccacgg agagccccag ccataaagggt gtgttcgcc tctggcctgc aggaatctct 240
 ttgaatctct ttgattggtg gctccaagag caatgggaag tcaacagcca ggaggctgga 300
 ctgggttccc tgggaccccg aggtcccaga gctgctgggc agtggtgtgc ggcaaagaag 360
 aaaggtccaa gagggtcagg 380

<210> 355
 <211> 347
 <212> DNA
 <213> Homo sapien

<400> 355
 ccagtggagg ggtgggggta tcgatccgc cgggggctgg cttgggtgct ggtgccctga 60
 gcccttctct gccgcctgg gtgttgctt cactgatgga ggtaggcgtc cagccagatg 120
 tcaccagact tcttcgggga cctgacgatg tccaccagcg cggtgaggaa gggcttcact 180

tcgtagctga	ggccgtgctt	ggcacacagc	gacttgacca	gcggggccac	ccggctgtag	240
ttgtgtctcg	gcacccctggg	gaagaggtgg	tgctcgatct	ggaagttgag	gtgcccgtg	300
aaccagttgg	tgaaaagtga	gggctccacg	ttgcaggtgg	ctgccag		347

<210> 356

<211> 157

<212> DNA

<213> Homo sapien

<400> 356

cctggagctg	ctgaagactg	ctattgggaa	agctggctac	actgataagg	tggtcatcgg	60
catggacgta	gcggcctccg	agttcttcag	gtctgggaag	tatgacctgg	acttcaagtc	120
tcccgatgac	cccagcaggt	acatctcgcc	tgaccag			157

<210> 357

<211> 323

<212> DNA

<213> Homo sapien

<400> 357

ccatacaggg	ctgttgccca	ggccctagag	gtcactcctc	gtaccctgat	ccagaactgt	60
ggggccagca	ccatccgtct	acttacctcc	cttcggggcca	agcacacca	ggagaactgt	120
gagacctggg	gtgtaaatgg	tgagacgggt	actttgggtg	acatgaagga	actgggcata	180
tgggagccat	tggctgtgaa	gctgcagact	tataagacag	cagtggagac	ggcagttctg	240
ctactgcgaa	ttgatgacat	cgtttcaggc	cacaaaaaga	aaggcgatga	ccagagccgg	300
caaggcgggg	ctcctgatgc	tgg				323

<210> 358

<211> 555

<212> DNA

<213> Homo sapien

<400> 358

aaaaggtttc	taaaacatga	cggagggttg	gatgaagctt	cttcatggag	taaaaaatgt	60
attttaaaga	aaattgagag	aaaggactac	agagccccga	gttaatacca	atagaagggc	120
aatgctttta	gattaaaaatg	aagggtgactt	aaacagctta	aagtttagtt	taaaagttgt	180
aggtgattaa	aataatttga	aggcgatctt	ttaaaaagag	attaaaccga	aggtgattaa	240
aagaccttga	aatccatgac	gcagggagaa	ttgcgtcatt	taaagcctag	ttaacgcatt	300
tactaaacgc	agacgaaaat	ggaaagatta	attgggagtg	gtaggatgaa	acaatttggg	360
gaagatagaa	gtttgaagtg	gaaaactgga	agacagaagt	acgggaaggc	gaagaaaaga	420
atagagaaga	tagggaaatt	agaagataaa	aacatacttt	tagaagaaaa	aagataaatt	480
taaacctgaa	aagtaggaag	cagaagaaaa	aagacaagct	aggaaacaaa	aagctaaggg	540
caaatgtac	accac					555

<210> 359

<211> 549

<212> DNA

<213> Homo sapien

<400> 359

ctgccaggct	gaaaagaagc	ctcagctccc	acaccgcctt	cctcaccgcc	cttcctcggc	60
------------	------------	------------	------------	------------	------------	----

agtcacttcc	actggtggac	cacgggcccc	cagccctgtg	tcggccttgt	ctgtctcagc	120
tcaaccacag	tctgacacca	gagcccactt	ccatcctctc	tggtgtgagg	cacagcgagg	180
gcagcatctg	gaggagctct	gcagcctcca	cacctaccac	gacctcccag	ggctgggctc	240
aggaaaaacc	agccactgct	ttacaggaca	gggggttgaa	gctgagcccc	gcctcacacc	300
cacccccatg	cactcaaaga	ttggatttta	cagctacttg	caattcaaaa	ttcagaagaa	360
taaaaaatgg	gaacatacag	aactctaaaa	gatagacatc	agaaattggt	aagttaagct	420
ttttcaaaaa	atcagcaatt	ccccagcgta	gtcaagggtg	gacactgcac	gctctggcat	480
gatgggatgg	cgaccgggca	agctttcttc	ctcgagatgc	tcttgctgct	tgagagctat	540
tgctttgggt						549

<210> 360

<211> 289

<212> DNA

<213> Homo sapien

<400> 360

tttaaatttt	actagtgtta	cttaatgtat	attctaaaaa	gagaatgcag	taactaatgc	60
cctaaatggt	tgatctctgt	ttgtcattac	tttttcaaaa	ttattttttt	ctgtaaagta	120
taatatataa	aacttcttgc	ttaaattgaa	tttctatatt	agtggttaat	tgagtttat	180
taaagggatc	attatcagta	atttcatagc	aactgttcta	gtgttttgtg	tttttaaaac	240
agaattagga	atttgagata	tctgattata	tttttcatat	gaatcacag		289

<210> 361

<211> 311

<212> DNA

<213> Homo sapien

<400> 361

ctgttcagta	tggcaaaggg	cagacttact	ccttcatcca	ctctgctgcc	ttgatgaggt	60
gaacacactg	gaataagatg	gagggcagga	tacctgccaa	agcctgagga	atgagatgat	120
ctgaacaat	tgggcaaagg	ctggacattt	caaaaagctg	acttccaact	gcagtttatg	180
ggtatagaat	ttgatgcttc	cctcaagtcc	tgactgctct	ttctgaggca	gccaggctag	240
gccaaagaaat	gagctgctcc	agcttctcca	gagcacagca	gcctcccagg	gcctgtcagc	300
atctgcagca	g					311

<210> 362

<211> 496

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(496)

<223> n = A,T,C or G

<400> 362

ccagtttcta	aaanaatgca	catttaaaga	gaagcatcta	ccacggcttt	aaaacaaaac	60
aactctgaga	tgaacaatat	gtgttatact	cagagattaa	caatctcaat	catacatact	120
gattctttca	gacattttaat	aaccactaca	tttttttgca	ttaatgaagt	ttgactatat	180
gtgtaaaggg	actaaatatt	tttgcaacag	cctgttcttt	gttcattctt	ttctggatag	240
cgtgtcctct	gtattgcggg	agatttatac	attctgttgc	ctaaatatgt	gtgtaaaatg	300

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agctgataaa ctggagtact acttaaaaaa aagtctgtga tttataagat gcatatgctt 360
tctatgtgaa tataagcttg tgcacaatgt ttaaaagaaa aacaatgaat tagaagagat 420
ccccgcccc ccagtctgac atatttcata cagaatgttt aaaagaaaaa ctctgctagt 480
cttggcaaac atttgg 496

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<210> 363
<211> 673
<212> DNA
<213> Homo sapien

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<220>
<221> misc_feature
<222> (1)...(673)
<223> n = A,T,C or G

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<400> 363
ccaagaggga gataanacaa acttctcaaa caaaaagaaa agaaaaacga atgattcatc 60
tgctttaatc agtgtgatta atgcagcacc cattgccccg ggaaccggtt ctgctgtact 120
atctggatac taaaatgtta cgggaagtagc tctttgttct ccctcactct gcccttagtt 180
aatagaaatt cagactcgcc aagtaaggct ttgtgcatag tgtcttcacg tcgcgtatag 240
ttgagcgcgt tcttagcagt tggcttcacg gacagctcat tagtgttttg acttttctta 300
cccagcggtta attgaattct tgcttttaga caacttcctt tttgtagtgg tgaaccttgc 360
ccttttagtac agttcaagtg aatctggata attgttcacg tttgctttag cttagatacc 420
atgtagtggg ctgtggctac aggaagctgg ttctgtctgc ttccacagtc tgcttaaaaa 480
actgtctgac ttctgtgaata tagagaccaa gtttaccact tctgatgaag agaccaatta 540
agattcattc ctcatctctg ttctttccag tgggagaaga gtccccatga aataagatga 600
aactgattcc atgcactagt acatgtaggc ttctcccttg cgcaaagctt aacaatttgt 660
aggaaacttt ggg 673

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<210> 364
<211> 495
<212> DNA
<213> Homo sapien

```

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<220>
<221> misc_feature
<222> (1)...(495)
<223> n = A,T,C or G

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<400> 364
ccaaatgttt gcncagact agcagagttt ttcttttaaa cattctgtat gaaatatgtc 60
agactggggg acgggggata tcttctaatt cattgttttt cttttaaaca ttgtgcacaa 120
gcttatattc acatagaaag catatacatc ttataaatca cagacttttt tttaagtagt 180
actccagttt atcagctcat ttacacaca tatttaggca acagaatgta taaatctacc 240
gcaatacaga ggacacacta tccagaaaag aatgaacaaa gaacaggctg ttgcaaaaat 300
atttagtccc ttacacata tagtcaaaact tcattaatgc aaaaaatgta gtggttatta 360
aatgtctgaa agaatcagta tgtatgattg agattgttaa tctctgagta taacacatat 420
tgttcatctc agagttgttt tgttttaaaag ccgtggtaga tgcttctctt taaatgtgca 480
tttttttagaa actgg 495

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<210> 365

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<211> 291
 <212> DNA
 <213> Homo sapien

<400> 365
 aactgacaag cccttgcgcc tgcctctcca ggatgtctac aaaattggtg gtattggtac 60
 tgttcctgtt ggcccagagt gagactggtg ttctcaaacc cggatatggtg gtcacctttg 120
 ctccagtcaa cgttacaacg gaagtaaaat ctgtcgaaat gcaccatgaa gctttgagtg 180
 aagctcttcc tggggacaat gtgggcttca atgtcaagaa tgtgtctgtc aaggatgttc 240
 gtcgtggcaa cgttgctggt gacagcaaaa atgaccacc aatggaagca g 291

<210> 366
 <211> 277
 <212> DNA
 <213> Homo sapien

<400> 366
 ctggatggtg cctcagaagg tgcattctgc ttctgcaggg gcttgaaaca ccaaggcact 60
 ccagggatcc tggagtcaaa gcagcagccc cggttgttgc actccttggg ggtgacatgg 120
 gggtagcccg cagtccacc tgccttggc tggcacggca cactggtttg cagacaggcc 180
 cacgtactcc tcagcagagc tggaggacaa gcaaggccag gaccagcccc agcatgcaga 240
 gcgctctggc agccatgacc accgtgggct ccgggac 277

<210> 367
 <211> 311
 <212> DNA
 <213> Homo sapien

<400> 367
 ccagagctgc ggggcctcag tacacggagc tgttccggat gccacagcac agcaccatgc 60
 tcaggatcat ctgaagatc atgatcacag cgaccacgat ggcagcaatg ccgatgaggt 120
 acagcttccc ggagaagagg tcategatct tctggtggca gtcctccttg aagaggttgc 180
 tgatgatgtt gctgcccag ggacacaaat tgttcttgag cactgaggtg gtcaaagcag 240
 tcagtgtgct ggagccacag cagtcaagcg tctcgtggaa ggtcttcacc acagccttgg 300
 cgttgttggc g 311

<210> 368
 <211> 384
 <212> DNA
 <213> Homo sapien

<400> 368
 ccaaaggggt ctctagctgc tgcctctgctg ctctctgtca tggatgagtt tggcgatggg 60
 gccggtgatg ccgcctatca aggtccagta ctcatcgaag ctgatgcgcc catcaggatt 120
 ggcatccagg ttctggatga gcttatccgc agccttccgg ttccctgtgt ccgacagcat 180
 gtggttcagc tctttctgga gcattctcgc gaagctgctc ttgctgatct tgttcttgac 240
 caggctgtac ctagacacat atttgtagaa gttttccacc aggacaatga ctgccttctc 300
 cagctccgtg tagcaagtct gacattctcc tgcctcgcct gctggcgggg cctaaggcgg 360
 gggccaagcc cagttacagc ccag 384

<210> 369

<211> 216
 <212> DNA
 <213> Homo sapien

<400> 369
 ccaagtgccca ggtggctttc agcagcttcc tacgatcagc cgaagaaagc agaagctctg 60
 gaggctgccca tcgagaacct caatgaagcc aagaactatt ttgcaaaggt tgactgcaaa 120
 gagcgcatca gggacgtcgt ttacttccag gccagactct accataccct ggggaagacc 180
 caggagagga accggtgtgc gatgctcttc cggcag 216

<210> 370
 <211> 561
 <212> DNA
 <213> Homo sapien

<400> 370
 ctggctcctt cttttgtggt cgtttggggg atgggctggt ttgggggttta ggtgcagaga 60
 atggtttggg gccactgcgt actggaccac tctgagcctt cagggcaggg ttcttgtgag 120
 tcttcattgtc atcagataca tgtttcaggg catgtgtaat gctctcccc tgattaatct 180
 gcgcgaacag tgctgagcgg gaagcagact catctgagcc tgaactggta gagactgggg 240
 gaggaggggg gcctggtgga gggggaggag gacctgatcc ggccagagggg ccagatggca 300
 gtccgctcag ttcttttgcc acaggccccg ttttgctcca ggccagtcgg gtggtatgga 360
 actccttaat gtaagcctgc agctctgtcc atatacttaa ataagctttg acccagtcta 420
 catgcttctt atccacatct ttgtactctt tgaggactcg gtttgtataa aacatggcgg 480
 catcattcat ttctttcgca taagggccag gcttggggagc catagccacc cagcccaggg 540
 cctggatact ttcgctgaca g 561

<210> 371
 <211> 518
 <212> DNA
 <213> Homo sapien

<400> 371
 cccacttcca tcgctctctg gtgtgaggca cagcgagggc agcatctgga ggagctctgc 60
 agcctccaca cctaccacga cctcccaggg ctgggctcag gaaaaaccag ccactgcttt 120
 acaggacagg ggggtgaagc tgagccccgc ctcacacca ccccatgca ctcaaagatt 180
 ggattttaca gctacttgca attcaaaatt cagaagaata aaaaatggga acatacagaa 240
 ctctaaaaga tagacatcag aaattgttaa gttaagcttt ttcaaaaaat cagcaattcc 300
 ccagcgtagt caagggtgga cactgcacgc tctggcatga tgggatggcg accgggcaag 360
 ctttcttcct cgagatgctc tgctgcttga gagctattgc tttgttaaga tataaaaagg 420
 ggtttctttt tgtctttctg taagggtggac ttccagcttt tgattgaaag tcctagggtg 480
 attctatttc tgctgtgatt tatctgctga aagctcag 518

<210> 372
 <211> 335
 <212> DNA
 <213> Homo sapien

<400> 372
 ctggaggctg ggtgcaccct gccagatcc acacctgtac cccggcggaa aggctcatgg 60
 gcattgaaga cgggtggtgaa aaagccaaag ggaaaagcac caacaccaa tgagaagtgg 120

```

aagcccccg taccacaaa tggttggaat cccctctgc tctccggagc tgggtctctgg 180
ccctgggggc ggggtggagt ttttaatctg ggatcctggg gcttctggct ccctcgccca 240
taaagcggga caaccttctc tctgctgac ccagctttac atactggaca ctcttgccgt 300
tctggccgtg tctccagcca ctgatgaaga catgg 335

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<210> 373
<211> 467
<212> DNA
<213> Homo sapien

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<400> 373
ccactagctg aatcttgaca tggaagggtt tagctaattgc caagtggaga tgcagaaaat 60
gctaagttga cttaggggct gtgcacagga actaaaaggc aggaaagtac taaatattgc 120
tgagagcacc caccacagga aggactttac ctccaggag ctccaaactg gcaccacccc 180
cagtgtcac atggctgact ttatcctccg tgttccattt ggcacagcaa gtggcagtgt 240
ctccaccacc tatgatgggt atgcagcccc tagaagtggc tttcaccacc tcatccatga 300
gagctttggg tccccgggca aaagcttccc attcaaatac cccacagga ccattccaca 360
caatctgctt agcccagtg acagcctcag catacttctt gctgctttca ggaccacagt 420
ccaagcccat ccagccagca ggtacgccag aagccacagt ggcttgg 467

```

```

<210> 374
<211> 284
<212> DNA
<213> Homo sapien

```

```

<400> 374
tttccgtaaa agcgtgtaac aagggtgtaa atatttataa ttttttatac ctgttgtag 60
acccgagggg cggcggcgcg gttttttatg gtgacacaaa tgtatatatt gtaacagca 120
attccaggct cagtattgtg accgcggagc cacaggggac cccacgcaca ttccgttgcc 180
ttaccgatg gcttgtagcg cggagagaaac cgattaaaac cgtttgagaa actcctccct 240
tgtctagccc tgtgttcgct gtggacgctg tagaggcagg ttgg 284

```

```

<210> 375
<211> 307
<212> DNA
<213> Homo sapien

```

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<400> 375
cctactcttc tccgtccatt gtactatctg cccgtgggtg ggatggcagt aggatcatat 60
ttgatgactt ccgagaagca tattattggc tccgtcataa tactccagag gatgcgaagg 120
tcatgtcctg gtgggattat ggctatcaga ttacagctat ggcaaaccga acaattttag 180
tggaacaata cacatggaat aatacccata tttctcgagt agggcaggca atggcgtcca 240
cagaggaaaa agcctatgag atcatgaggg agctcgatgt cagctatgtg ctggtcattt 300
ttggagg 307

```

```

<210> 376
<211> 650
<212> DNA
<213> Homo sapien

```

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<220>

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<221> misc_feature
 <222> (1)...(650)
 <223> n = A,T,C or G

<400> 376

ccattgncn	ctnacgtgat	gtcatcatct	gccagggtcat	cttggcaaaa	gtcggagcat	60
ttctcagtca	ctgcaaagta	gcccttctcg	ttggagcacc	ggaagagacg	tgtgtgtttc	120
atgtactcgg	catcgtcatc	atagggtctc	tgtgccccaa	tgcccaccca	gaagaagttc	180
tcagggtcct	caccttcgtt	gataacctgc	ttgctgtagg	aggtgtcaaa	catggtgttc	240
aggatgtctt	ctgccaactt	ggcttcgtca	gggtctgatg	cccggcccac	ccaggcatac	300
acgatgccct	ggttgcctc	actctcaaag	ggaaccttga	ggatgaagca	gaactcggag	360
ttgaggaggc	tggagtcggt	gttgatctgg	atgcaccggg	tgcagagggc	gctgccgttg	420
gtgcggatct	ggtagaggct	gggctgttgg	gcgccctgga	ccgccttctc	cttgccccgg	480
tggatgatga	acttctctt	gaaatgggac	aggaacttgg	ggttctctctg	ctgctgcgtc	540
atgcgtacca	cctccagctt	cccagggaag	aggctctcga	acttcttttg	caggctgaag	600
gtgaagggtga	cccaccata	ttgggagggt	ttcacggccc	tgccagaagt		650

<210> 377
 <211> 306
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(306)
 <223> n = A,T,C or G

<400> 377

tctagatgca	tgctcgagcg	gccgccagtg	tgatgganat	ctgcagaatt	cgcccttcga	60
gcggccgccc	gggcagggtc	gggtgctgcc	ttcacctgcc	aggcccttcc	ccgctagctt	120
ggggcgagca	gagctgcgtc	cagtggaaact	aaagccgttc	caggattatc	aaaaactgag	180
cagcaacctt	gggggacctg	gatcatcacg	gactccccca	actggaaggt	ccttctctgg	240
cctcaattcc	cgtctcaagg	ccacgccttc	cacctacagt	ggagtcttcc	gcaccagcgc	300
cgctga						306

<210> 378
 <211> 199
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(199)
 <223> n = A,T,C or G

<400> 378

ccacangtgg	cacttgggtg	tggctcctct	gttatctgtc	ctcatgtgag	aaagcagatc	60
atctccaaat	cttgccattt	gtatactttt	ggtggagact	tggatgtcat	atcttctttg	120
ttttgggttt	tcttccctag	cttatcttgt	ggcttttaaa	gaagtggatt	gtattgtgag	180
atcctgtgat	tcttgggtg					199

<210> 379
 <211> 216
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(216)
 <223> n = A,T,C or G

<400> 379
 ccagggcang tcatcaagag gggcattgtc ttgcatgcgg cctgccgtgt ccaccagcac 60
 cagctcaaag ccttggttac gtgcaaaagc aatggcttcc atggcaatgc cagcagcatc 120
 cttgccatag cccttttcaa acaactgcac catggtgcgg ccaccatgct tctctggagg 180
 gtgtagggca ctcaaagcc ggggtgtgtg acgcag 216

<210> 380
 <211> 555
 <212> DNA
 <213> Homo sapien

<400> 380
 ccatgggcct tcctttccac taaaaggaat tccgaacagc aaaaagaagg tcttgagata 60
 gtgaaaatgg tgatgatata tttagaaggt gaagatgggt tggatgaaat ttattcattc 120
 agtgagagtc tgagaaaact gtgcgtcttc aagaaaattg agaggcattc cattcactgg 180
 ccctgccgac tgaccattgg ctccaatttg tctataagga ttgcagccta taaatcgatt 240
 ctacaggaga gagttaaaaa gacttggaca gttgtggatg caaaaaccct aaaaaaagaa 300
 gatatacaaa aagaaacagt ttattgctta aatgatgatg atgaaactga agttttaaaa 360
 gaggatatta ttcaagggtt ccgctatgga agtgatatag ttcctttctc taaagtggat 420
 gaggaacaaa tgaaatataa atcggagggg aagtgttctc ctgttttggg attttgtaaa 480
 tcttctcagg gtcagagaag attcttcatg ggaaatcaag ttctaaaggc tttgccccaa 540
 gagatgatga ggcag 555

<210> 381
 <211> 406
 <212> DNA
 <213> Homo sapien

<400> 381
 ctgcaccagg tgggcctcta ggtcccatta agcccattgg tccaggggcca agtccaactc 60
 cttttccatc atactgagca gcaaagttcc caccgagacc agggggggcca ggaggaccag 120
 gtggaccagg agggcctgtg ggaccatctt caccatctct gcctgggggg cctggtggac 180
 ccctttctcc acgtggctct ctatctccgg ctggggcctt tcttacagtt tctcttgta 240
 aagattggca tgttgctagg cataagggtta ctgcaagcag caacaaagtc cgcgtatcca 300
 caaagctgag catgtctagc acttagacat gcagactcct tgtgtcgcag agcccctggg 360
 tcaccggcgg aggtatcacc tggcggggcg gggcatgcag tcgtgg 406

<210> 382
 <211> 528
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(528)
 <223> n = A,T,C or G

<400> 382
 ctgagcagtt tgtgggntn tcttcccga agtttcagga agtattcaca aaagaaaaat 60
 acattttttc cccaggggt ggggcaagga cagtggagag agtgctagga aatgagtc 120
 ctgggaaagg ggaccgggc gtgatgttaa atatctccg ctcccaagt actggatttg 180
 cctaggacct tcagaccaac agacttcaga ccctcagacc tgccccggg ccaggtggag 240
 aaagtgagg ccgtacaagg aagtgaatt ctgagttgtt ggggctaagc ctgacccct 300
 ctccatgctc ccgcgccaa cccactctgg cctcagtaga ttttttttc agttgtggtt 360
 gttgcccagg ctggagtga gtagcgccat cttggctcac tgcacctcca ccttcggggc 420
 tcaagcgatt ctccagctc agcctcctga gtagctagga ctgcaggtgc tccaccacgc 480
 ccggctaatt tttgtatttt tagtagagat ggggtttccc catgtttgg 528

<210> 383
 <211> 335
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(335)
 <223> n = A,T,C or G

<400> 383
 ccatnttgag tctactcctg cgtcttgtgc cctagcaccc cgagaaccgt cagtttgagc 60
 cagatggaag ctgagctgaa cacattacga tggatgatgg aaacataaga ctatcaagaa 120
 atccaagtgg taatggcgca agtttattca gcacccggca atggacttat cgtagttggg 180
 gaaacgggtg ttccgaataa tatcctggaa gttatcagga cacctatttt aaatataggc 240
 ctgaattttg taaagtaata tttaagggtg tccgtgataa ttaaataaaa tgcttaattc 300
 atgtggcgaa aaaaaaaaaa naaaaaaaaa aaaaa 335

<210> 384
 <211> 333
 <212> DNA
 <213> Homo sapien

<400> 384
 agtccaatac ggctattggg gttgtagcag ctttcagagg aaattagtg tctgggcttg 60
 cctccagctc cccaggggca gcccagtag ctacactgtc cagacagcac aagaccaggc 120
 tgggtgcacg tccatccgag cgctgcctca gggatcgata aagtttact gcagaaagtc 180
 tccactgcgg tatgctgaca tctgccctga accttcaccc tacagcatta caggctttaa 240
 tcagattctg ctggaaagac acaggctgat ccacgtgacc tcttctgcct tcaactgggt 300
 ggggtgatcc ttggtgcctt tgtttcacac agg 333

<210> 385
 <211> 343
 <212> DNA

<213> Homo sapien

<400> 385

ctgtgacacc	tcaggttgaa	agggtcttcc	tccttgaaca	cccaccgagg	ggcctggagc	60
aacagccagc	cgatatggac	ttctagctgc	accgggtcac	tgaggggtgga	gagggtttgtc	120
tggcacctgt	actctccact	gtcgtcgact	gtggcagcgt	caatgaagta	gctcgaggcc	180
tggcttgaga	tgaggctctc	attgtgaaac	cactgtgtgg	aattgtcctc	aggggagtag	240
gctccctggc	acttcagagt	cacactgtcc	ttctcgagca	ccctgtacca	ttgaggctcc	300
aggaacacca	cagcctttgg	gagatcttca	gtccgcacgc	caa		343

<210> 386

<211> 244

<212> DNA

<213> Homo sapien

<400> 386

tattctttga	ttcttggcaa	ataggtgaga	gaactaatag	caaccaggca	actgaggacg	60
aagtcacaaa	gtcggtaaca	gaagaatgga	atcagccaac	ccacttgata	agaaattgct	120
ccataaacca	gcattgaact	gattataaac	ataagaacag	agacggcaaa	aagaacacag	180
gcattatcag	ccattctctc	agacgaatag	taattaccga	tgacttcata	ctgaatgttg	240
acag						244

<210> 387

<211> 504

<212> DNA

<213> Homo sapien

<400> 387

atctggagtc	cagcctcagg	gatgcgctac	tttccattct	ctgcattgaa	cattcgttct	60
gtcagcatcc	gctccagctt	cactgcatca	gcggcaaaact	tgcggatccc	gtcagagagc	120
ttctccacag	ccatctggtc	ctcgttgtgc	aaccaacgga	aagacttctc	atccaggtgg	180
atcttttcca	ggtcactggc	ttgggcccgc	ttggctgaga	gcacaggcac	cagcttggcg	240
ttgtcctgca	gcagctctcc	caggagcttg	ggtgggatgg	tgaggaagtc	acagccggcc	300
agtgccttga	tctcgcccgt	gttgcggaag	gaggcgccca	tgacaatggt	ttttagtcta	360
aacttcttgt	agtagttgta	gatttttagtg	acactcttta	ccccagggtc	ttccaggggc	420
tcataggatt	tcttgtcggg	gtttgccaca	tgccaatcaa	ggatgcgccc	aacaaatggg	480
gagatgaggg	tcacaccgcg	ctcg				504

<210> 388

<211> 450

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(450)

<223> n = A,T,C or G

<400> 388

gccaaagtgc	tgcntgaatt	ccactccctt	ggttttcgcc	tgcccagcgt	tgctgtttgc	60
gtggaggggtg	gggggagctc	agtggcaggg	aatcagcggg	ccgtgggggc	gtggggacgg	120

gaacatgtgc	ccgaccgctc	catccccctc	tcctccttag	gatgcataac	ctaccttgtc	180
tttttttttt	taaattttnt	ttccaggtan	agtagctntt	tgtacataaa	naataactga	240
aaaattaatt	gtatgatgta	tgaaaanaca	nagtctccta	gttttgtatn	ttgttgtagt	300
actgccatga	gttccaccaa	aaagccactn	tattttggtc	tntgtgacat	tttaaattgcg	360
tgacaaaagt	gagcaaataa	agngaggaan	aaatntatnt	atganataat	atanattgta	420
ttgaaatcta	aaaaaaaaaa	aaaaaaaaaa				450

<210> 389

<211> 297

<212> DNA

<213> Homo sapien

<400> 389

cctgcacttg	aacatggctt	tggttttaag	caacttctct	accctgaccc	tcctcctggg	60
acagcgtttc	gggaggtttc	ttggcctcac	tgagagggat	gtggagctgc	tgtaccccgct	120
caaggagaag	gtattctaca	gcctgatgag	ggagagcggc	tacatgcaca	tccagtgcac	180
caagcctgac	accgtaggct	ctgctctgaa	tgactctcct	gtgggtctgg	ctgcctatat	240
tctagagaag	ttttccacct	ggaccaatac	ggaattccga	tacctggagg	atggagg	297

<210> 390

<211> 223

<212> DNA

<213> Homo sapien

<400> 390

ctgggctgga	gagttgggtgc	tggaanaaca	gtccttcccc	tggggccggt	tcttaccag	60
gtccagagaa	accaacgcgg	gatgtcagac	ttcaccaaaa	ggactttctg	gttgccctg	120
gctggcttcc	tggaggcggt	cgcctctagt	ttctcagga	tggagcgaga	gcccagccag	180
agaacagtaa	gaggagctgc	tctcctatct	gcactcacc	agg		223

<210> 391

<211> 365

<212> DNA

<213> Homo sapien

<400> 391

ctgaggaaga	aatgaaaaaa	gaccctgtcc	ctcatggccc	gccactggc	ctcctgtgaa	60
ctctgtcctg	ttgccaaccc	cagatgaagt	cagccaaaaa	gtgctttcca	catcctctct	120
ctggggctgc	ccagcctgac	cgtaggggat	ccactggcag	agccaagggtg	gatgctgggtg	180
cctgaagctg	gaagccagca	ggacatgaga	cccctcctgt	agcaggaagt	ggttctagaa	240
ctcccagcag	aacagaacgg	aaaaggagct	gattggggat	agaatgagtt	ctgctaataa	300
gccagatgct	ctgagagagg	tgacactgga	ctgtctcgga	ggtgtgtgca	gatggctaca	360
ggtgg						365

<210> 392

<211> 302

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(302)

<223> n = A,T,C or G

<400> 392

ccaagagcta	caatgagcag	cgcatacanga	cagaacgtgc	agggtttttga	gttccagttg	60
actgcagagg	acatgaaagc	catagatggc	ctagacagaa	atctccacta	ttttaacagt	120
gatagttttg	ctagccaccc	taattatcca	tattcagatg	aatattaaca	tggagagctt	180
tgctgatgt	ctaccagaag	ccctgtgtgt	ggatgggtgac	gcagaggacg	tctctatgcc	240
ggtgactgga	catatcacct	ctacttaa	ccgtcctggt	tagcgacttc	agtcaactac	300
ag						302

<210> 393

<211> 213

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(213)

<223> n = A,T,C or G

<400> 393

ccaataatca	agnacaaana	ctggatttga	ggatggatca	gttctgaaac	agtttctttc	60
tgaaacagag	aaaatgtccc	ctgagacag	agcaaaatgc	tttggaaaga	atgaggccat	120
acaggcagcc	catgatgccg	tggcacagga	aggccaatgt	cgggtagatg	acaaggtgaa	180
tttccatttt	attctgttta	acaacgtgga	tgg			213

<210> 394

<211> 334

<212> DNA

<213> Homo sapien

<400> 394

cctacccata	atccagagag	gcttgcccag	aggaggacta	cgtggggggac	gtgccaccag	60
aaccctactt	gggggcgggg	tgtcactccg	aggtcaaaac	ctgctccgag	gtggacgagc	120
cgtagctccc	cgaatgggct	taagaagagg	tgggtgtcga	ggtcgtggag	gtcctggggag	180
agggggccta	gggcgtggag	ctatgggtcg	tggcggaatc	ggtggtagag	gtcgggggtat	240
gataggctcg	ggaagagggg	gctttggagg	ccgaggccga	ggccgtggac	gagggagagg	300
tgcccttgct	cgccctgtat	tgaccaagga	gcag			334

<210> 395

<211> 174

<212> DNA

<213> Homo sapien

<400> 395

ccagatgagg	aaaaaaatta	ggaaggagat	gaagttttcc	aaatttcatg	gtatatgctg	60
cacttcccca	accttccactc	tccatgtagc	ctactgggtc	tactattcca	caaagtggct	120
caacctccaa	atgacctctg	gtttaccctt	attaaaaatcc	caaaggactt	tcag	174

<210> 396

<211> 140
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(140)
 <223> n = A,T,C or G

<400> 396
 ctgcaaagcc ttgtgtaacn ttctccagca tttggaccca gtacgtgaaa gcccacaaca 60
 cgttcattgt ctttagtatt acagattatt tttgcataac atttggtgtt atctcttgac 120
 ggaatcgctc attccaatgg 140

<210> 397
 <211> 318
 <212> DNA
 <213> Homo sapien

<400> 397
 cctcgccctgg agggcccccgg ggcagcacag ggaggacgag cttgtccagc agaggggtctg 60
 gcagaggggtc ccgcagaggt ttgggcaggg ggtctgacat ccctggctcc tgctctggct 120
 ctggctgccg ggatttgcac agggccaggt gcatacatat gccgtttgag tcagtctggt 180
 tctggaagta gtcgatgacc agggggaagt agtcgtcaag cacttggttg cactggggca 240
 tgagcagctt caaggggagg acgttgact cctgctccag gaacttcctc atcgtgtcct 300
 ggaaaatggc ctcccttg 318

<210> 398
 <211> 517
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(517)
 <223> n = A,T,C or G

<400> 398
 ccttncttcg ccatccattc atcgaccctc tccagcactt gctgcaggct tggctgacca 60
 tccaccatgg cttgaataat cccggtgagc tctgtacaga atggggtaag ctgtggatgg 120
 actacaggct ggacatacat gtgaaaggta gactcaatct ccattggctcg gccatttagc 180
 tttaggatgg ggaactcgat gatttcctga ggatgaatct gtggcttgct gcacgtggcc 240
 tcaaagtcca gactaaaaa gtatgtatgc ctctggagag ggaaggacac cattgccgcc 300
 atggatgcgc caaagccgtg ggccgccagc tttctgggtg atatggagca gaactccgga 360
 acaccacagg gagaaaataa gtgggagccc agcacttttc ttgctcttga aagtaaatac 420
 gaagaaaatc gagctgctcc agtctgtaaa ggtgctagca ttgaacatcc agaagcatct 480
 aaaactctcc ttacttcgaa gatgccaaga ccggcag 517

<210> 399
 <211> 329
 <212> DNA

<213> Homo sapien

<400> 399

ccaacctcag gcaacgggtg gagcagtttg ccagggcctt ccccatgcct gggtttgatg	60
agcattgaag gcacctggga aatgaggccc acagactcaa agttactctc cttcccccta	120
cctggggccag tgaaatagaa agcctttcta ttttttggtg cgggagggaa gacctctcac	180
ttagggcaag agccaggtat agtctccctt cccagaattt gtaactgaga agatcttttc	240
tttttccttt tttcggtaac aagacttaga aggagggccc aggcactttc tgtttgaacc	300
cctgtcatga tcacagtgtc agagacgcg	329

<210> 400

<211> 451

<212> DNA

<213> Homo sapien

<400> 400

ctggcttcac tgctcaggtg attatcctga accatccagg ccaaataagc gccggctatg	60
ccctgtatt ggattgccac acggctcaca ttgcatgcaa gtttgctgag ctgaaggaaa	120
agattgatcg ccgttctggt aaaaagctgg aagatggccc taaattcttg aagtctggtg	180
atgctgccat tggtgatatg gttcctggca agcccatgtg tggtgagagc ttctcagact	240
atccaccttt gggtcgcttt gctgttcgtg atatgagaca gacagtgcg gtgggtgtca	300
tcaaagcagt ggacaagaag ctgctggagc tggcaaggct accaagtctg ccagaaaagc	360
tcagaagcta aatgaatatt atccctaata cctgccacc cactcttaat cagtgggtgga	420
agaacggctc agaactgttt gtttcaattg g	451

<210> 401

<211> 180

<212> DNA

<213> Homo sapien

<400> 401

ccaggaagca ggccagggga ttggcagcac tgcccagcac cacagccagg ttgtaggcca	60
gacgcccgtg gggtaagcag gaaaagctct gcacggcagg cagcacgcca ttggtcagcg	120
cggtgggtggc ggccaacagg cccagcaggc aggcactgcg ggctgataga agctgatagg	180

<210> 402

<211> 385

<212> DNA

<213> Homo sapien

<400> 402

ccaggccacc tgtgcggggc tcctcgatgt ggaagggttc ggtgaggaga ttgtagaagg	60
agccgtagca cacggccacc acagtgcacg tgaggcagat cacgtttagg ggcatgctga	120
agtccggtgt cggcagggtt accagcagcg gctccgtgta gagccgcaca aagtagttag	180
agccatcaga gactgggaac aggctgttga agaggggact ctcttcccag tccactggct	240
tggtgctac catgctgggc acaagggcgc tgaggacaga tgggctgaca tagaagccat	300
ggttaggatc tggcgtgtac tcggctccact tcagcagcgc ccgctcaaac tggatggaaa	360
ccttggtgac tgagttggcc ggcag	385

<210> 403

<211> 440

<212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(440)
 <223> n = A,T,C or G

<400> 403

ctgtttaacc	agnaacccgg	ggggtcacc	cccacagaat	gtacatgaaa	cactagagga	60
ctgcatgttt	ttccctgaga	gaagcgtaag	acaaacagaa	gtcaaaaagt	agtcactggg	120
agcgccatcc	ttctaagcaa	atcctccctt	tcccttttgg	aggatttgcc	cgaactacgt	180
agccagtcag	cacttagacc	acctgcctcc	tccccccct	ataaaccac	cactcccctc	240
ctcctttccc	aaaccacttg	gggtgtccta	agccctcact	gcccccaagg	caaaatatca	300
gctaagatcc	ttgtcagtat	ttccacagtc	atacctaata	aatggggaag	tggggcccct	360
aaaaaccaat	tcacatctat	gcattgttt	ccactggatt	tggcagacag	gcttttttag	420
ttaccgtaac	cagatcttaa					440

<210> 404
 <211> 239
 <212> DNA
 <213> Homo sapien

<400> 404

cctacgaaaa	actcccggcc	ggtgaagaga	acgtcagtgc	catccagcgt	cgcgttctcg	60
tctcctattt	ccacaattcg	gagccccagg	tcttgccagg	ctttgcggac	tccatcgacc	120
tctggcctac	gagcggggct	ccagggccgc	gtgattagg	ccgtgtcccc	ttggatcacg	180
gccgtgtcgc	caagcagcgg	tcccagcggc	aatgactcct	caggtggcag	ttctagcag	239

<210> 405
 <211> 261
 <212> DNA
 <213> Homo sapien

<400> 405

ctggagaggc	agcccttcac	cggatgcccc	gctccgtgcc	cctgcggggc	ccagcacagt	60
ttaccttctc	ccccacggc	ggtcccatct	actctgtgag	ctgttcccc	ttccacagga	120
atctcttcct	gagcgtggg	actgacgggc	atgtccacct	gtactccatg	ctgcaggccc	180
ctcccttgac	ttcgtgcag	ctctccctca	agtatctgtt	tgctgtgcgc	tggtccccag	240
tgcggccctt	ggtttttgca	g				261

<210> 406
 <211> 641
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(641)
 <223> n = A,T,C or G

<400> 406

ctgctcccgg	gcntggtggc	agcaagtaga	catcggggcct	gtgcagggcc	acccccttgg	60
gccgggagat	ggtctgcttc	agtggcgagg	gcaggtctgt	gtgggtcacg	gtgcacgtga	120
acctctcccc	ggaattccag	tcatectcgc	agatgctggc	ctcaccacag	gcgctgaaag	180
tggcattggg	gtggctctcg	gagatgttgg	tgtgggtttt	cacagcttcg	ccattctggc	240
gggtccagga	gatggtcacg	ctgtcatagg	tggtcaggtc	tgtgaccagg	caggtcaact	300
tggtagactt	ggtgaggaag	atgctggcaa	aggatggggg	gatggcgaag	acccggatgg	360
ctgtgtcttg	atcggggaca	cacatggagg	acgcattctg	ctggaaggtc	aggcccctgt	420
gatccacgcg	gcaggtgaac	atgctctggc	tgagccagtc	gctctctttg	atggtcagtg	480
tgctggtcac	cttgtaggtc	gtgggcccag	actctttggc	ctcagcctgc	acctgggtccg	540
tggtagacgc	agacccacc	tgcttcccct	cgcgcagcca	ggacacctga	atctgccggg	600
gactgaaacc	cgtggcctgg	cagatgagct	tggacttgcg	g		641

<210> 407

<211> 173

<212> DNA

<213> Homo sapien

<400> 407

ccaggtactg	gcacaatcat	gtctggatgg	gggtgggtgg	gtcctgtagg	cagagaaaca	60
ggaaattgtc	gtagttagta	tcgagcagcg	tggcctcggt	cgccaccgta	tagttgatct	120
tgaacttctt	tggattctca	gtcttctctc	caaggacctt	cttctcaaca	cag	173

<210> 408

<211> 165

<212> DNA

<213> Homo sapien

<400> 408

ccactgtctg	cagccatggc	agaaagtgtc	caaagtcag	caccttcaca	ttcatctcat	60
cactcttggg	gttccccagg	accttgagca	cctcggcggt	ggtaggggtc	tggcccaggg	120
ccctcatcac	atccccacac	tggctgtaca	ggatcttgcc	atcac		165

<210> 409

<211> 329

<212> DNA

<213> Homo sapien

<400> 409

ctgtagcttc	tgtgggactt	ccactgctca	ggcgtcaggc	tcagatagct	gctggccgcg	60
tacttgttgt	tgctttgttt	ggagggtgtg	gtggtctcca	ctcccgctt	gacggggctg	120
ctatctgcct	tccaggccac	tgtcacggct	cccgggtaga	agtcacctat	gagacacacc	180
agtgtggcct	tgttggtctg	aagctcctca	gaggagggcg	ggaacagagt	gaccgagggg	240
gcagccttgg	gctgaccaag	gacggtcagc	ttggtccctc	cgccaaatac	cgccgggataa	300
gcaccactgt	tgtctgctga	ttgacagaa				329

<210> 410

<211> 235

<212> DNA

<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(235)
 <223> n = A,T,C or G

<400> 410
 ccatacagnga gaaaggtgtt tgtaagttgt ttcacaaacc agattgagga ggacaaactg 60
 ctctgccaat ttctggattt ctttattttc agcaaactt ttctttaaag cttgactgtg 120
 tgggcaactca tccaagtgat gaataatcat caagggtttg ttgcttgtct tggatttata 180
 tagagctttt tcatatgtct gagtccagat gatttggtca cccaacctc tggag 235

<210> 411
 <211> 294
 <212> DNA
 <213> Homo sapien

<400> 411
 aattaagga agatgaagat gataaaacag ttttgatct tgctgtggtt ttgtttgaaa 60
 cagcaacgct tcggtcaggg tatcttttac cagacactaa agcatatgga gatagaatag 120
 aaagaatgct tcgcctcagt ttgaacattg accctgatgc aaaggtggaa gaagagcctg 180
 aagaagaacc tgaagagaca gcagaagaca caacagaaga cacagagcaa gacgaagatg 240
 aagaaatgga tgtgggaaca gatgaagaag aagaacagc aaaggaatct acag 294

<210> 412
 <211> 433
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(433)
 <223> n = A,T,C or G

<400> 412
 cctgagaagc cagaggcagg tggagagggg gtggaaagtg agcagcgggc tgggctggag 60
 ccgcacacgc tctcctccca tgtaaatag cacctttaga aaaattcaca agtccccatc 120
 cacaaaaaaa aaaanaanaa aaatttcagg gantaaaaat anactttgaa caaaaaggaa 180
 catttgntgg cctggggggg catctnantt tntntagcnc cagngattcc ctccccnccc 240
 caccatcac atanatgtaa cacctttggt ntaaaatggg gagccgtttc caccttgccc 300
 cctccccgc ccccgagcag ttgccccggn gacacntcaa gacaggancg aggtagtntt 360
 tcancancac agttncacaa ggaacagaac agtntctccc gccagccct gcggcacaag 420
 ggattgacac gcn 433

<210> 413
 <211> 494
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(494)

<223> n = A,T,C or G

<400> 413

ccttatttct	cttgtcnctt	cgtacaggga	ggaatttgaa	gtagatagaa	accgacctgg	60
attactccgg	tctgaactca	gatcacgtag	gactttaatc	gttgaacaaa	cgaaccttta	120
atagcggctg	caccatcggg	atgtcctgat	ccaacatcga	ggtcgtaaac	cctattgttg	180
atatggactc	tagaatagga	ttgcgctggt	atccctaggg	taacttggtc	cggtgggtcaa	240
gttattggat	caattgagta	tagtagttcg	ctttgactgg	tgaagtctta	gcatgtactg	300
ctcggagggt	gggttctgct	ccgaggtcgc	cccaaccgaa	atttttaatg	cagggttggt	360
agtttaggac	ctgtgggttt	gttaggtact	gtttgcatta	ataaattaaa	gctccatagg	420
gtcttctcgt	cttgcctgtg	tatgcccgcc	tcttcacggg	caggtcaatt	tcactgggta	480
aaagtaagag	acag					494

<210> 414

<211> 294

<212> DNA

<213> Homo sapien

<400> 414

ctgggcggat	agcaccgggc	atattttgga	atggatgagg	tctggcaccc	tgagcagtc	60
agcgaggact	tggtcttagt	tgagcaattt	ggctaggagg	atagtatgca	gcacggttct	120
gagtcgtgg	gatagctgcc	atgaagtaac	ctgaaggagg	tgctggctgg	taggggttga	180
ttacagggtt	gggaacagct	cgtacacctg	ccattctctg	catatactgg	ttagtgaggt	240
gagcctggcg	ctcttctttg	cgctgagcta	aagctacata	caatggcctt	gtgg	294

<210> 415

<211> 421

<212> DNA

<213> Homo sapien

<400> 415

ccttgccct	gccctccac	gaatggttaa	tatatatgta	gatatatatt	ttagcagtga	60
cattcccaga	gagccccaga	gctctcaagc	tcctttctgt	caggggtggg	ggttcagcct	120
gtcctgtcac	ctctgagggtg	cctgctggca	tcctctcccc	catgcttact	aatacattcc	180
cttcccata	gccatcaaaa	ctggaccaac	tggcctcttc	ctttcccctg	ggaccaaaat	240
ttaggggcct	cagtcctca	ccgccatgcc	ctggcctatt	ctgtctctcc	ttcttcccc	300
tggcctgttc	tgtctctgag	ctctgtgtcc	tccgttcatt	ccatggctgg	gagtcactga	360
tgctgcctct	gccttctgat	gctggactgg	ccttgcttct	acaagtatgc	ttctcccaca	420
g						421

<210> 416

<211> 342

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(342)

<223> n = A,T,C or G

<400> 416

ccactttctt	tcccacnctg	gaaggcggca	tctatgactt	cattggggag	ttcatgaagg	60
ccagcgtgga	tgtggcagac	ctgataggtc	taaaccttgt	catgtcccgg	aatgccggca	120
agggagagta	caagatcatg	gttgctgccc	tgggctgggc	cactgctgag	cttattatgt	180
cccgtgcac	tcccctatgg	gtcggagccc	ggggcattga	gtttgactgg	aagtacatcc	240
agatgagcat	agactccaac	atcagtctgg	tccattacat	cgtcgcgtct	gctcaggtct	300
ggatgataac	acgctatgat	ctgtaccaca	ccttccggcc	gg		342

<210> 417

<211> 389

<212> DNA

<213> Homo sapien

<400> 417

tattaattag	gttcttaaga	catttagaac	accaatttgt	gaggataaat	tccattcgctc	60
agagcaaaca	cagatcgag	gtagccctgg	agctgaggaa	tagctttgat	ttttggtaaa	120
atttgtgagt	ccacagcttt	ctgatcaatc	ttgcgtgct	ccgtaatctc	atatttctct	180
ttttctgtgt	cgaagatctc	accttccctgg	tgtctgggct	tccgcagctt	cttcttcttg	240
aagtaagcat	cagtaagatg	ttttgggatt	tttacattgc	tgatatcgat	tttggttgaa	300
gtggcaatga	caaatttctg	gtgtgttctt	cgtagaggaa	ctcgattgag	gaccagaggt	360
ccagtcacaa	gtaataagcc	actagccag				389

<210> 418

<211> 343

<212> DNA

<213> Homo sapien

<400> 418

gtgggagggg	gccaggttgg	gatggagggg	gtttacagga	agcagacagg	gccaacgtcg	60
aagccgaatt	cctggtctgg	ggcaccaacg	tccaaggggg	ccacatcgat	gatgggcagg	120
cgggaggtct	tggtgggttt	gtattcaatc	actgtcttgc	cccaggctcc	ggtgtgactc	180
gtgcagccat	cgacagtgc	gctgtagggt	aagcggctgt	tgccctcggc	gcggatctcg	240
atctcgttgg	agccctggag	gagcagggcc	ttcttgaggt	tgccagtctg	ctggtccatg	300
taggccacgc	tgtttttgca	gtggtaggtg	atgttctggg	agg		343

<210> 419

<211> 255

<212> DNA

<213> Homo sapien

<400> 419

cctagcaaga	gaatcaccaa	atztatggag	agttaacagg	ggtttaacag	gaaggaagtg	60
cctttagtaa	gttctcaagc	cagaggctgg	aggcagcagc	taaatcagag	gacagcatcc	120
tcagtgaaa	tgagccattc	gggggtggcat	gtcactccag	gaataaacac	aacttagaaa	180
caaagtattt	cgtaggatag	cacagtgcac	tggtgcactg	tgaacctgag	gccactgtgt	240
caaactgtgc	actgg					255

<210> 420

<211> 261

<212> DNA

<213> Homo sapien

<400> 420

cttctgatga taaccaaccc ctagctacca ctctgtattc atcaggggag gggataaac	60
cccacatgca agaagaaccc ttgccccag tgtcaaattg gatgggatg ctagagttat	120
agtaaagggg aaaccctatg taagctgtta acagagttca caggggtagg gataaccct	180
gttctccagc tcccaaatgt gtcactttc ccagcttctt catccgttca tcaatgctgg	240
caaagttccc ctcaactgtg g	261

<210> 421

<211> 179

<212> DNA

<213> Homo sapien

<400> 421

ccttcctgtt gttgtttcaa atgctgcttg atttctcgta acagatctgc atctatgtaa	60
tacctttctt cagatctgac tgctccaaaa tgattctgca tcttgatttg agacatcaat	120
tcatttagtc ggccttgaa ctgagtaggt gcatttagtt caccctgaat cgtatccag	179

<210> 422

<211> 424

<212> DNA

<213> Homo sapien

<400> 422

cgagggtccaa atctgatctg cagatgcaga agattcgaca gaagctgcag actaaacagg	60
ctgccattgga gaggtctgga aaagctaagc aactgcgagc acctaggaaa tacgggaaga	120
aggtgcaaac ggaggttctt cagaagaggc agcaggagaa agcccatatg atgaatgcta	180
ttaagaaata tcagaaaggc ttctctgata aactggattt ccttgaggga gatcagaaac	240
ctctggcaca gcacaagaag gcaggagcca aaggccagca gatgaggaag gggcccagtg	300
ctaaacgacg gtataaaaa cagaagtttg gttttggtgg aaagaagaaa ggctcaaagt	360
ggaacactcg ggagagctat gatgatgtat ctagcttccg ggccaagaca gctcatggca	420
gagg	424

<210> 423

<211> 256

<212> DNA

<213> Homo sapien

<400> 423

ctgtggccta gggctacctc aagactcacc tcctccttac cgcacattta aggcgccatt	60
gcttttggga gactggaaaa gggaagggtga ctgaaggctg tcaggattct tcaaggagaa	120
tgaatactgg gaatcaagac aagactatac cttatccata ggcgaggtg cacaggggga	180
ggccataaag atcaaacatg catggatggg tcttcacgca gacacacca cagaaggaca	240
ctagcctgtg cacgcg	256

<210> 424

<211> 330

<212> DNA

<213> Homo sapien

<400> 424

ccagccgcat gggagtggag gcagtcactg ccttgctaga ggccaccccg gacacccag	60
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cttgcgctcgt gtcactgaac gggaaccacg ccgtgcgccct gccgctgatg gagtgcgtgc      120
agatgactca ggatgtgcag aaggcgatgg acgagaggag atttcaagat gcggttcgac      180
tccgagggag gagctttgcg ggcaacctga acacctacaa gcgacttgcc atcaagctgc      240
cggatgatca gatcccaaag accaattgca acgtagctgt catcaacgtg ggggcacccg      300
cggctgggat gaacgcggcc gtacgctcag                                     330

```

```

<210> 425
<211> 333
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(333)
<223> n = A,T,C or G

```

```

<400> 425
ctgctccatg gnetcaaagt cagcaccacc cacaccaca atgatcactg acatgggcag      60
gttcgaggca cgcaccacag cctcacgtgt ggcttcaca tccgtcacag caccatcagt      120
cagnagaaac agnatgaagt attngaggc antcccctga tgtgcagcct gggctgcaaa      180
cctggacctg cccgggcggc cgctcgaaag ggcgaattcc agcacactgg cggccgttac      240
tagnggatnc aganctcggt acnaagcttg gcagtaatca tggtcatagc tgtttcctgt      300
gagcggntgg gatgaacgcg gccgtacgct cat                                     333

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```

<210> 426
<211> 411
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(411)
<223> n = A,T,C or G

```

```

<400> 426
gggtgttcat catgaggatt gcttctgcc a tggagctgat ggacgtgggc aggttgctga      60
gaaggtgggg tggaagtgag tgccgggggt ggggtgagtgc cctgggtcttg ttcatagggg      120
agcctttccc tagcagtgga acgctgtggt ctttttctct agcatattcc cttgggaagt      180
ctagatttgc tattaatctg gctgagaatc taagttctgt gccttagaga cagtttgcac      240
tttcccatat tgtgcctggg acagccatat gatTTTTTTT cccaccaaac aagtatgcaa      300
acagaaacca gttcaaaggg ggatgggtgta aaagatgagg cagtanaaat gcctttgaat      360
ggttttctgt agctaattct ctttaaattt tgtcctgctt tttttcttta t                                     411

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```

<210> 427
<211> 450
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(450)

```

<223> n = A,T,C or G

<400> 427

acgtgtacaa gtttgaactg gatacctctg aaagaaagat tgaatttgac tctgcctctg	60
gcacctacac tctctactta atcattggag atgccacttt gaagaacca atcctctgga	120
atgtggctga tgtggncatc aagttccctg aggaagaagc tccctcgact gtcttgctcc	180
agaacctttt cactccaaaa caggaaattc agcacctgtt ccgcgagcct gagaagaggc	240
ccccaccgt ggtgtccaat acattcactg cctgatacct ctgcgcgttg ctctgtctct	300
tcgctctgtg gatccggatt ggtgccaatg tctccaactt cacttttgct cctagcacga	360
ttatatttca cctgggacat gctgctatgc tgggactcat gtatgtctac tggactcagc	420
tcaacatggt ccagaccttg aagtacctgg	450

<210> 428

<211> 377

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(377)

<223> n = A,T,C or G

<400> 428

cagggctata gtgcgctatg ttgatctggt gttcatgcta agttccgcat caatatggtg	60
acttcttggg agtggggggac caccagggtg cctaaggagg ggtgaacctg cctacgttgg	120
aaatagagct ggncaaaact cctgtgctca tcagtagtag aattgcacct gtgaatagcc	180
ncgcgccctcc agcatgggca acataacaag accctgcctc ttaaagataa aaattggaaa	240
acactnntag gaaaaaaagg gtgnttggtc taaataaatn tggattgggn ataaatgacn	300
caaaactatc atgaatttga aagcntttct aatttcttga aagtctgaaa aaagttaaan	360
cncaattttta tctnaaa	377

<210> 429

<211> 206

<212> DNA

<213> Homo sapien

<400> 429

gttgctcctc caaagaaggt tggcttcaag gccgtgtcca gggacccacg agcagaggca	60
ctgggggggca agggatctcc aaggggggcaa gggatcccta aagggggtag ctcacagggtg	120
aggggggttta gggccctct agggagcgcc tgaggccata cattcaagag tgtccctggt	180
gaggcccagg gaagagccag gactgg	206

<210> 430

<211> 473

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(473)

<223> n = A,T,C or G

<400> 430

ccttatttnt	cttgtccttt	cgtacagga	ggaatttgaa	gtagatagaa	accgacctgg	60
attactccgg	tctgaactca	gatcacgtag	gactttaatc	gttgaacaaa	cgaaccttta	120
atagcggctg	caccatcggg	atgtcctgat	ccaacatcga	ggtcgtaaac	cctattgttg	180
atatggactc	tagaatagga	ttgcgctgtt	atccctaggg	taacttggtc	cgttgggtcaa	240
gttattggat	caattgagta	tagtagttcg	ctttgactgg	tgaagtctta	gcatgtactg	300
ctcggagggt	gggttctgct	ccgaggtcnc	ccanccgaa	atttttaatg	cagggttggt	360
agntnaggac	ctgtgggttt	gttaggtact	gggtgcatta	ataaattaaa	gtcccatagg	420
gtcttctcgt	cttgctgtgt	tatgcccncc	tcttcacggg	caggtcaatt	tca	473

<210> 431

<211> 215

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(215)

<223> n = A,T,C or G

<400> 431

cctgtatnaa	gctanaaaaa	gactaccagc	ccgggatcac	cttcatcgtg	gtgcagaaga	60
ggcaccacdc	ccggctcttc	tgcactgaca	agaacgagcg	ggttgggaaa	agtggaaaca	120
ttccagcagg	cacgactgtg	gacacgaaaa	tcaccaccc	caccgagttc	gacttctacc	180
tgtgtagtca	cgtgggcac	caggggacaa	gcagg			215

<210> 432

<211> 391

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(391)

<223> n = A,T,C or G

<400> 432

ccagcactgc	cacaaacttt	ttcagggcca	ccaggcgctg	cccttccagg	accgggaacc	60
tgcccacttc	tatccgcagg	atgtagtgca	gtgcagattc	caggtcagcc	atgtagatcc	120
tggagcgatc	tgccaatttc	caaacagtgg	gagctatctt	gttagcagtg	gttgggtcaa	180
ctgtggtctg	ggcagcctcc	ctgggtgagcc	cagagagtct	ctgcaggtaa	gcggtataga	240
aggacctgga	ttccatgagc	acggggactc	gggagacgga	gccattccgg	aacagcaggt	300
agcaagaggg	gaagtcgggtg	acaccaaact	ttctcaccac	attggcctct	gtgttcagca	360
ccctgcgcac	cgccacncct	ttgtgctggg	a			391

<210> 433

<211> 420

<212> DNA

<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(420)
 <223> n = A,T,C or G

<400> 433
 ctgtagcttc tgtgggactt ccactgctca ggcgtcaggc tcagatagct gctggctgcg 60
 tacttggtgt tgctttgttt ggaggggtgt gtggtctcca ctcccgctt gacggggctg 120
 ctatctgctt tccaggccac tgtcacggct cccgggtaga agtcacttat gagacacacc 180
 agtgtggcct tgttggcttg aagctcctca gaggagggcg ggaacagagt gaccgagggg 240
 gcagccttgg gctgacgtag gacggtagt ttggnccctc cgccgaatgc cgcanttcta 300
 ctgtcccaca cctgacagta atagtcanc ccatcttcgg cttgggctct gctgatggtc 360
 aggggtggccc gtgntccccg agttggagcc agggaatcnc tcagggatcc canagggccn 420

<210> 434
 <211> 239
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(239)
 <223> n = A,T,C or G

<400> 434
 ccaaccanga gagaagggat cgcttggtgc ccagggccca ccaggagctc caggcccaact 60
 tgggattgct gggatcactg gagcacgggg tcttgacagga ccaccaggca tgccagggtcc 120
 taggggaagc cctggccctc aggggtgtcaa gggtgaaagt gggaaaccag gagctaacgg 180
 tctcagtgga gaacgtggnc cccctggacc ccagggtctt cctggtcttg ctggtncag 239

<210> 435
 <211> 415
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(415)
 <223> n = A,T,C or G

<400> 435
 ctgtccaatg gcaacaggac cctcactcta ttcaatgtca caagaaatga cgcaagagcc 60
 tatgtatgtg gaatccanaa ctcagtgagt gcaaaccgca gtgaccaggt caccctggat 120
 gtctctatg ggccggacac ccccatcatt tccccccag actcgtctta cctttcggga 180
 gcaaacctca acctctcctg ccactcggcc tctaaccat cccncanta ttcttggcgt 240
 atcaatggga taccgcagca acacacaaa gttctnttta tcgccaaaat cagcctaaat 300
 aataacggga cctatgcctg tttagggntn taacttggnt actggcgcga anaattccat 360
 agtcaagagc atcacagnct ctgcatntgg aacttctcct ggctntcaga cctgn 415

<210> 436
 <211> 152

<212> DNA
<213> Homo sapien

<400> 436
ccaggattga caggccatcc attcacagcc aggagatgct gggccagtcc ctccaagagg 60
tctccgtcat ggcagtgatg aaaacctaac agggtaggcc cctgtgccag ctccaggtgac 120
tggagcccga gggcctgaca ggttcccagc ag 152

<210> 437
<211> 174
<212> DNA
<213> Homo sapien

<400> 437
ccagggtactg gcacatcatg ctctggatgg gggtaggtggg gtcctgtaag cagagaaaca 60
ggaaattgtc gtagtcagta tcgagcagct gtggcctcgt tcgccaccgt atagttgatc 120
ttgaacttct ttggattctc agtcttctct ccaaggacct tcttctcaac acag 174

<210> 438
<211> 485
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(485)
<223> n = A,T,C or G

<400> 438
ccacggccct ctcgccctc tcgctgggag cggagcagcg aacagaatcc atcattcacc 60
gggctctcta ctatgacttg atcagcagcc cagacatcca tggtagctat aaggagctcc 120
ttgacacggg caccgcccc cagaagaacc tcaagagtgc ctcccggatc gtctttgaga 180
agaagctgcy cataaaatcc agctttgtgg cacctctgga aaagtcatat gggaccaggc 240
ccagagtcc t gacgggcaac cctcgcttgg acctgcaaga gatcaacaac tgggtgcagg 300
cgcagatgaa aggggaagctc gccnggtcca caaaggaaat tcccgatgag atcagcattc 360
tccttctcgg ngtggcgcac ttcaaggggc agngggtaac aaagtttgac tncagaaang 420
acttccctcg aggatttcta cttggatgaa gagaggaccg tgaggggtccc catgatgtcg 480
gaccc 485

<210> 439
<211> 317
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(317)
<223> n = A,T,C or G

<400> 439
gggccgtctt cccctccatc gtggggcgcc ccaggcacca gggcagtgat ggtgggcatg 60

```

ggtcagaagg attcctatgt gggcgacgag gccagagca agagaggcat cctcaccctg      120
aagtacccca tcgagcacgg catcgncacc aactgggacg acatggagaa aatctggcac      180
cacacattct acaatgagct gcgtgtggct cccgaggagc acccgtgct gctgaccgag      240
gccccctga accccaaggc caaccgcnag aagatgaccc agatcatgtt tgagaccttc      300
agcaccctag ccatgta                                     317

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<210> 440
<211> 338
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(338)
<223> n = A,T,C or G

```

```

<400> 440
ccanaaagac ttcccaggga agatgcttgg ctctctgctc caagggtgggc catggtatag      60
ggccctcgaa gggcttgttg ctgggggatg cccagggggc attgctcaaa gtgcacagga      120
ggtggcagca gggtcaggcg agttcctgtt ccaggacat caggaggag ggtagaagcc      180
tagggagtgt gcgaggctgc tgggatgagg gagctcagg gctaccagct aaccagcctc      240
agctcaatgg tttctccatc cttgggtctg tagtcagcaa taccttgcaa cagtgggggtg      300
ttgggggtctc ggagaagctg ccagaactcc ctttctcc                                     338

```

```

<210> 441
<211> 505
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(505)
<223> n = A,T,C or G

```

```

<400> 441
ccacacagan tcaccaagcc acagacttgt cttccacaag cacgttctta tcttagccac      60
gaagtgacca agccacacgt actaaagggt gaactcaaag atatgtacag ggtattaaac      120
aaataccaag ggggaacagtt aacttcaata caaggctgaa atcagcaaca agttctacaa      180
tccagnctg atatcagata caagcttcaa ggacaatttc ttttcgaagg cttattccag      240
tttcgngagg ctagcatgag gtgtgtgcat ttgccagggg caaatttcta ttctcaatta      300
acccatgcag caaatgctac ncatggtgcn gagtccgttt agaagcattt gcggtggacg      360
atggaggggc ccgactcgtc ttactcctgc ttgctaatec acnngngctg gaaggnggac      420
agtgaggcca cggatggagc caccnatcca caccgagtnc ttgcgctctg ggggtgcgat      480
natnttgatc ttcatgggtgc tgggc                                     505

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```

<210> 442
<211> 386
<212> DNA
<213> Homo sapien

```

```

<220>

```

<221> misc_feature
 <222> (1)...(386)
 <223> n = A,T,C or G

<400> 442
 cgccaggtga tacctccgcc ggtgaccag gggctctgcg acacaaggag tctgcatgtc 60
 taagtgctag acatgctcag ctttgtggat acgcggactt tgttgctgct tgcagtaacc 120
 ttatgcctag caacatgcc aatctttacaa gaggaaaccg taagaaaggg cccagccgga 180
 gatagaggac cacgtggaga aaggggtcca ccaggccccc caggcagaga tggatgaagat 240
 ggtccacacag gccctcctgg tccacctggg cctcctggcc cccctggctc cgatgggaac 300
 tttgctgctc agtatgatgg aaaaggaggg nggacttggc cctggaccaaa tgggcttaac 360
 gggacctana ggccacactg gtgcag 386

<210> 443
 <211> 404
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(404)
 <223> n = A,T,C or G

<400> 443
 cctccctctc agagcttgcc ccagggactc tctggccctc aggggttcaat gtattctgac 60
 caaggccaag ctttccctggg gtcaggagg aatcacactt tgctacccga agctgtatcc 120
 cctcagatgc caggaaggcc gtgatcatct gactccacc tcctgagaca cattctctcc 180
 ctgactgtcc tgttctaagt cagcggagca ccttaggatg gaggggtgga ggcgaggcca 240
 ngatgcagcc tctgtgaaca ggtgcctgga ggctgggaaa tgaccctgag agggcaggac 300
 acagcnaccg ngggcttaag gtgagggngg agagcaagnt tggccactt tacaattcta 360
 gntcagagcc anccctaac atgnggggca tttattcatt tcgg 404

<210> 444
 <211> 318
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(318)
 <223> n = A,T,C or G

<400> 444
 catgggctat agtgcgctat gttgatctgg tgttcattgct aagttccgca tcaatatngc 60
 gacttcttng gagtggggga ccaccangtt gcctaaggag gggatgaacct gctacgttg 120
 gaaatagagc tggatcaaac tcctgtgctc atcagtagta gaattgcacc tgtgaatagc 180
 caccgccctc cagcntgggc aacatagcaa gaccctgcct ctttaagataa aaattggaaa 240
 acactggtan gaaaaaagg ctgtttgggc taaanaagtc tggatnnggt ataatgaca 300
 cnaancatc atgactnt 318

<210> 445

<211> 418
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(418)
 <223> n = A,T,C or G

<400> 445

ccagtccaac	ctgctcctca	ttattgtata	aatgagcaga	atcaatatgg	cggaagccag	60
cttcaattgc	caatttggtg	gcctctaaag	ctttactttt	aggaacctct	gcaggcgcat	120
aggtgccaaa	tcccaggaca	ggcatgaagt	gaccatcatt	cagcttcaca	cactgatatt	180
tcgaatccat	ttctgtcact	agcctggctg	gcaaattggt	ctttcttctt	ccctcacagg	240
ctataagagc	aatgagctgg	caacgcccct	gagcacactg	tctgctgntt	aaccaatggc	300
atgtgagagg	agggacagag	gcagtcttac	acaagctgtg	ataaaaattg	catncagttc	360
aaccagtttc	ttacnttatt	ctaatgngna	ggaagtgtgn	gaagagcaca	aagtcaga	418

<210> 446
 <211> 361
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(361)
 <223> n = A,T,C or G

<400> 446

ctgtccaatn	acaacaggac	cctcactcta	ctcagtgtca	caaggaatga	tgtaggaccc	60
tatgagtgtg	gaatccanaa	cgaattaant	gttgaccaca	gcgacccagt	catcctgaat	120
gtcctctatg	gcccagacga	ccccaccntt	tccccctcat	acacctatta	ccgtccaggg	180
gtgaacctca	gcntctctctg	ncatgcagcc	tctaaccac	ctgcacagta	tccttggtg	240
attgatggga	acntccagna	acacnacaca	agagctcttt	atctccancn	tnactganaa	300
gaacagcgcg	actctatncc	ttccaggggg	gggggggtggg	gnntgngggc	cttnccgggc	360
C						361

<210> 447
 <211> 321
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(321)
 <223> n = A,T,C or G

<400> 447

ccagganant	ggttccccaa	aggggacctc	acccgccccg	agctctggag	ccgctgacgc	60
tcgcatccag	gacatttgag	atgggaatcc	aaataggcta	cttgnaaaag	acgtgctgca	120
ngcagccctg	gagagactca	tggagtccat	tgtacattac	tccatctacc	gaggcagcgc	180

atggcatgac tnaacggctt gnaacaaaca canaaattac caccacaaac attcaggaac	240
caaataataat ctgctatggc cacaccacag acaatgcagg aagaggcttt ttattgctng	300
ngtgngtttt caaatcatgt t	321

<210> 448
 <211> 325
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(325)
 <223> n = A,T,C or G

<400> 448	
ccagcttcaa ctttttagta tagaagatac aggatcacaa aaaggagact acgctttgca	60
aacatagcat caaaattcaa cttttctctt tgcagtttat ccatggngtc agcatacctt	120
gcaagggaag ctacttacat caaataactt ttctatatac atttcctcat tgaccttttc	180
tcaaagaata tcttggtttt gccgaacaaa cataatatag gngtctgcca gatccattcc	240
tggtttctgt ngtgaaggaa aagcaggggg aacaaaataa tatcagggtc tcaatngtga	300
nattattatt taatcatacc ctgan	325

<210> 449
 <211> 123
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(123)
 <223> n = A,T,C or G

<400> 449	
cattaatntt ggaagcgaat gtgtggatta catcagtgtt agggcatggt gtggatatta	60
ttacattann attggaagcg atgggtgtgga ttacatcagt gatagggcac ggtgtggata	120
tta	123

<210> 450
 <211> 328
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(328)
 <223> n = A,T,C or G

<400> 450	
ctggcaattt tgagctgccg gttatacacc aaaatgttct gttcagtacc tagctctgct	60
cttttatatt gctttaaatt tttaaagaaa ttatatgca tggatgtggt tatttgtgca	120
tattttttta caatgcccaa tctgtatgaa taatgtaaac ttcgattttt ttttaaaaaa	180

attagatttt	agctggagct	tttgactaat	gtaaagtaaa	tgccaaacta	ccgacttgat	240
ngggatgttt	ttgtaangtt	aattttctaa	gactttttca	catccaaagt	gatgctttgc	300
tttgggtttt	aactgtttca	acntnggn				328

<210> 451
 <211> 209
 <212> DNA
 <213> Homo sapien

<400> 451						
ctgccttggt	tcaacagaca	tgcaaagatc	ctaggagaca	gtcccatag	accttcagac	60
attaaaaagg	gagccgtaca	gtttgtttga	agcacttcgt	cttaccatt	tatgcagggg	120
ccccaggaaa	cttacacaca	gccagaatga	ggttcccaaa	ggacttacat	taattatggc	180
tcttgcttcc	tttcacaaat	gagctgagg				209

<210> 452
 <211> 457
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(457)
 <223> n = A,T,C or G

<400> 452						
ctgtctantc	ccttcaagag	ctgtttatag	aagcttgaga	atggggtaaa	aattttctgct	60
agcaaaatca	agttcttttt	gaaattttat	cagtaatcca	gaatttagta	gtccatgcct	120
tctcactcag	catttagaaa	taaaaatgtg	gtttcttaaa	cgtatatcct	ttcatgtata	180
tttccacatt	tttgtgcttg	gatataagat	gtatttcttg	tagtgaagtt	gttttgtaat	240
ctactttgta	tacattctaa	ttatattatt	tttctatgta	ttttaaatgn	atatggctgt	300
ttaatctttg	aagcattttg	ggcttaagat	tgccagcacc	acacatcaga	tgagtcatt	360
gttgctatca	gtgtggaatc	tgatagagtc	tngactccgg	ccacttggag	ttgtgnactc	420
caaagctaag	gacagtgatg	aggaagatgg	catgtgg			457

<210> 453
 <211> 277
 <212> DNA
 <213> Homo sapien

<400> 453						
ccaattgatt	tgatggtaag	ggagggatcg	ttgacctcgt	ctgttatgta	aaggatgcgt	60
agggatggga	gggcgatgag	gactaggatg	atggcgggca	ggatagttca	gacggtttct	120
atttcttgag	cgtctgagat	gttagtatta	gttagttttg	ttgtgagtg	taggaaaagg	180
gcatacagga	ctaggaagca	gataaggaaa	atgactacga	gggcgtgatc	atgaaagggtg	240
ataagctctt	ctatgatagg	ggaagtagcg	tcttgtga			277

<210> 454
 <211> 198
 <212> DNA
 <213> Homo sapien

<400> 454

gttaaaagat	agtaggggga	tgatgcta	aatcaggctg	tgggtggttg	tggtgattca	60
aattatgtgt	tttttgaga	gtcatgtcag	tggtagta	ataattgttg	ggacgattag	120
ttttagcatt	ggagtaggtt	taggttatgt	acgtagtcta	ggccatatgt	ggtggagatt	180
gagactagta	gggctagg					198

<210> 455

<211> 608

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(608)

<223> n = A,T,C or G

<400> 455

ctgagcaagc	taaggaccag	gggcaactag	accctaataa	tgngtacttt	tgaaaatgat	60
acaaactacc	ttggttgtaa	gaagtgcagg	ttgaacactt	taggagaaca	gtcttcaaac	120
tggcaattca	aaatttccca	ttatatgtga	ataaaattgg	aaggatgtta	aatgtccatg	180
gaaagtact	cttgtaagtt	aggatgcctt	atactgaggc	tttanaatga	aagtacactt	240
cacaaatgga	atagtgaaca	taaattacca	gaagtcaaga	taatagtcac	actagtaagg	300
taagcaaggt	aaattccctt	atacacaaaa	attattttga	tgaccttttt	caataatgaa	360
tctgaaatga	agtgttttaa	aaagctccct	aaacacaaaa	cgaacataaa	actgcttaac	420
aacttttagag	ctcatgtaac	attcttgctg	aaaacagtta	ctgaaattac	cagcgaaatg	480
atggaatata	tttaaagcag	gncactcngt	ataatctgga	ataatttcac	ttgctaactt	540
ttaagaagta	ttctctggac	tataaatcnt	gggcaaatag	acttccactt	tattattacc	600
ccaaatta						608

<210> 456

<211> 467

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(467)

<223> n = A,T,C or G

<400> 456

cctggacctg	tgtaaaccct	caaacactct	tttttacatt	aggctcgtgaa	gttaaatttt	60
ttactgtttc	tgtgctacag	actcttcaaa	gggaaatagt	taagtcaatt	tcaaagaaaa	120
tgaccagcac	atttttaaaa	cattagaaat	gatttgactt	tgactatcta	ctgccaaaaa	180
aagggttaagg	aatttgtaac	gagaagctaa	aaactttaag	gaattttaag	gaactcaaaa	240
caaaaactca	ttaaatgtaa	ttaaagtga	ttctacaaat	aaagcctctt	aatacatctt	300
tataatagtc	acttaagact	taaattcaaa	cactagcaaa	ccacaaaatc	agactgtntg	360
actgacatcc	aaaagataaa	tataaatcaa	aatccgaccc	cagcattagc	caaggggtag	420
gtgttcctct	tgaggaaggc	aggaattcct	cttctgccac	ctgtttgg		467

<210> 457

<211> 183
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(183)
 <223> n = A,T,C or G

<400> 457
 ccaaattttt tacttttaaact actgaaaaca gaggaagtta ataaaaattt taacctataa 60
 agtcccctgg ttgttagtca ttaacagcag attgtcagat aagactggta aaatgatggc 120
 tgctaagcat ttgatgatcc aggcgcagga tgatcaaact gcagcagatc atgcacgtga 180
 cag 183

<210> 458
 <211> 445
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(445)
 <223> n = A,T,C or G

<400> 458
 gaaaaatata aagccaaaaa ttggataaaa tagcactgaa aaaatgagga aattattggt 60
 aaccaatttta ttttaaaagc ccatcaattt aatttctggt ggtgcagaag ttagaaggta 120
 aagcttgaga agatgagggt gtttacgtag accagaacca atttagaaga atacttgaag 180
 ctagaagggg aagttgggta aaaatcacat caaaaagcta ctaaaaggac tgggtgtaatt 240
 taataaaaaac taaggcagaa ggtttttgga agagttagaa gaatttggaa ggccttaaat 300
 atagtagctt agtttgaaaa atgngaagga ctttcgtaac ggaagtaatt caagatcaag 360
 agtaattacc ancttaatgt ttttggcgtt ggactntgag ttaagattat tttttaaatc 420
 ctgaggacta ncattaatgg gacag 445

<210> 459
 <211> 426
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(426)
 <223> n = A,T,C or G

<400> 459
 cctatgatan cttctctagc tatcatactc caatcagcaa aaaatgagaa aatgttgaga 60
 aatagaagat aattcctcat ttaaggccac cttctagaat ttgtgcttaa gattctgctt 120
 tcttctcatg ggccagcact tcggcaactg gcaaaaatta ggtgtacagg gatctaggta 180
 atactgttta tttgagcaat aatatattgt gctaacgttc aggcaccta ttactgagaa 240
 ataagggaaa atgagtgtaa agtacaacta agagtctcgg cgacagggaa aaataccatc 300


```

agttaaatat ccatagtcct agagcattta tgtaaaactg caatntgaat cctgcaatac 360
atnttggcctt tttccctcag tgataccatg tgagggaagn ngctctgtca aggcgggccc 420
gataga 426

```

```

<210> 460
<211> 348
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(348)
<223> n = A,T,C or G

```

```

<400> 460
ccaaatttta aaatgttatt tttcatatca tttataacct tgtcacaatc cacttaaaga 60
agtttgggta tatttcactg aaaattttct tccagagtag gttttttttc gtgggttggg 120
gggtaacttt actacaatta gtaagtntgg tgcagaattt catgcaaag aggagtgcag 180
cagngtgata atttaaaca atntaaacaa aaacaaaaaa aatgaatgca caaacttgct 240
gctgcttaga tcaactgcagc ttctaggacc cggtttcttt tactgatnta aaancaaaac 300
aaaaaaanta annacnttgt gcctgaaatg aanccttggtt tttntna 348

```

```

<210> 461
<211> 378
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(378)
<223> n = A,T,C or G

```

```

<400> 461
ccactaagac agaacggaat ctagtagaag tgcaccaatg cttcagtcct tctactcag 60
catggtgagc agtgggtcaat ctgtgccctg tggaaatgat ggcagataat tctggcatgt 120
gtaaataata ataaataatt cacttggtgc aggcagtatg tctatgaatt aaaacctagt 180
gtgtacacag tgcctacatg tgttacagcc ccacagtagg aatctacacc aaaatattta 240
ttagaaggaa tttgggtccg actacatcac gctttccgga gggtaaaaaa taaagtccat 300
ctatagacat ttcaccacag acccagagac tgagtctggc taaaacctgc aaaatgtcta 360
taacaaaagn ggatggct 378

```

```

<210> 462
<211> 197
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(197)
<223> n = A,T,C or G

```

```

<400> 462
gcgagggtcca cactattaaa agctgttggg taattgaagg tgatataaaa tgactgtcnt      60
catttgaggt gngcagcaca nttacttcat gttgctcang tttanaacaa tntcccctgn      120
aagttctcac acagatnggn agaaatcata cctantntng gtnaatcact atggcagccg      180
tngaagaatn taagaga                                     197

```

```

<210> 463
<211> 279
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(279)
<223> n = A,T,C or G

```

```

<400> 463
cataagtgat gangaggnaa aatcantnaa taagcctaca acntagaata cattaaaact      60
tgcacatata catgttcaca gcatgtatac aatgataatc cctacggttt aaccaagtta      120
tggttccctt ctacagcaga cacaaaacca aggtgaacta ggtnggcaga tgtanaggga      180
ataccaaaaa aagggtaatn ngntcactga ttctgaagna tntgactgan catactgagc      240
ttctgnactt tgggaatgca tnnaggnaac aatatcttg                                     279

```

```

<210> 464
<211> 552
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(552)
<223> n = A,T,C or G

```

```

<400> 464
gatgggttga taggtgcagc aaaccaccct ggcgcatgtt taccaatgta acaaacctgc      60
acatcctgca caggtactcc aaaactaaaa gtaaaaaaat ctaaaagaaa aaagaaaaag      120
aattaaacc aaatcactt ccccatctgg acttgattta gatgaaaagc ttctggactt      180
tgagctgatg ctatagtggg ttgaaaattt tggggctctc agaaggggat gaggatatat      240
tgcagagag agcaacatga atcatngaga gccagagtat agagagnngt gggtagactg      300
taggagagcc ctcaatgatc ccggctgtct tgtattcgcg ttgcacttac ttgtataata      360
tggcagatgg gatgtgatgt cactttcaag attangttat aaatagacta tggcttcaat      420
cagaggggtt tcttctctgt ctanctctct tttgggtagn ttcattctga gagaaagcca      480
nacctngcc gcnaccacg ctaaggggcg anttccagcn cactggcggc cngttactag      540
tggatccgng ct                                     552

```

```

<210> 465
<211> 444
<212> DNA
<213> Homo sapien

```

```

<220>

```

<221> misc_feature
 <222> (1)...(444)
 <223> n = A,T,C or G

<400> 465
 ccactcttgg tagaaacctt gaaactttca ccttgctggg ctttagcaaa gtttcctttt 60
 acagttctgt ttatgagctt cagctactga taaagcactt cctgaacttc tctattatca 120
 tagngaccct ctgaataacc tgagtgactg gctcggcaat tcgctttata accattctta 180
 ttcccaaagt tggagcacat aaacatttag atgtcttttc ctgtaaaata ttctagacat 240
 ttacccaaac tctagttcaa catatactca acttgactg tatactctccc tgcttttttg 300
 agacagagaa gaaattcagg aggtgnccca tctccagagt ttctctgttg gaaagcagcn 360
 atcaagaanc ctttaaaaaa ttggtgtnaa gctntgccnc ctgcagaaat gcntngcccc 420
 acattattct tctggggnaa agna 444

<210> 466
 <211> 381
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(381)
 <223> n = A,T,C or G

<400> 466
 cctactatgg gtgttaattt tttactctct ctacaagggt ttttcctagt gtccaaagag 60
 ctgttctctt ttggactaac agttaattt acaaggggat ttagagggtt ctgtgggcaa 120
 atttaaagtt gaactaagat tctatcttgg acaaccagct atcaccaggc tcggtagggt 180
 tgctgectct acctataaat ctccccacta ttttgctaca tagacgggtg tgctctttta 240
 gctgttctta ggtagctcgt ctggnntcgg gggctcttagc tttggctctc cttgcaaagt 300
 tatttctagt taattcatta tgcannaggt ataggggnta gtccttgcta tattatgctt 360
 gggtataatt tttcatcttt c 381

<210> 467
 <211> 95
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(95)
 <223> n = A,T,C or G

<400> 467
 cctatanatt ntggnttgta tactgggtcc tgaaaaccct cttggngctc tgtttttaag 60
 gagctgaanc caanganccg caataataat acttt 95

<210> 468
 <211> 224
 <212> DNA
 <213> Homo sapien

<400> 468

cagtgggtct	ctgatgcctt	gcctgcagca	gaaggaggga	gcagagatca	agaggaagga	60
aaaaatcata	tgtacttatt	tgaaggtaaa	gattattcta	aagagcccag	taaggaagac	120
agaaaatcat	ttgaacaact	ggtaaaccct	cagaaaaccc	ttttggagaa	agctagtcaa	180
gagggccgat	cactccgaaa	taaaggcagt	gttctcatcc	cagg		224

<210> 469

<211> 416

<212> DNA

<213> Homo sapien

<400> 469

ctgagttcta	gttcaaaagc	tttatcctta	acttcgtcat	gtactatgta	aattctagaa	60
tagaaaaggg	aaaggtaaga	ttttggtaac	ctccaaacat	tgaagtagtt	cacagaccca	120
aagtcagtac	aaattagaat	gtccatccat	aataaaaagta	tctataaaat	tacacagaca	180
cattctacat	agtattttaac	attagagaag	acaaattaca	cagggactga	aataaaatga	240
aacatctact	ctcccagaaa	atgttgaata	tacctaataca	acccaagtgc	agtttatttt	300
tgcacattgc	tttagagata	taacttggct	gggcacagtg	gctcacacct	gtaatcccaa	360
cactttggga	gaccaaggcg	gatggatcac	ttgaggtcag	ttcgagacta	gcctgg	416

<210> 470

<211> 376

<212> DNA

<213> Homo sapien

<400> 470

caccttttaa	ctgtatcaca	aagtctgttg	ctgtgggttac	agcctttggt	tccagtgatg	60
ttttgtccat	gctttccccc	aacccttaac	aatggttact	caaaagaatg	aaataatgag	120
tcattcattc	gggaatatgt	taaaatatcc	ctctttatca	ttacatttca	ctgcttagaa	180
actaggctgt	aattcaaggc	aacagttaag	tctgagaact	gttaaaaaaa	tctttgattt	240
tttttcattt	ttaagaaaaa	cctgcctatt	taattgttca	gacttgtaag	aggttcttca	300
attacatcct	ttttggttaa	tgtattattt	ctggaacaag	tagataaaat	tctacgcagt	360
aagcataata	aaaatc					376

<210> 471

<211> 357

<212> DNA

<213> Homo sapien

<400> 471

ggcttcgtat	aatggttctt	ttgtcacccc	tgatcgacga	tttcgctacc	cgtacaactc	60
tgacaagggg	acgaaatgct	tctgtgtatt	cacctagtgg	tcctgtgaac	agaagaacaa	120
caactccacc	ggatagtggg	gtactgtttg	aagggttagg	catttcaaca	agacctagag	180
atgttgaaat	tcctcagttt	atgagacaga	ttgcagtaag	gaggccaact	acggcagatg	240
aaagatcttt	gcggaaaatt	caagaacaag	atattattaa	ttttagacga	actctttacc	300
gtgctggtgc	tcaggttaga	aatattgaag	atggtggccg	ctacagggat	atttcag	357

<210> 472

<211> 557

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(557)

<223> n = A,T,C or G

<400> 472

cngagatgac	atttacaatc	tcttgaaang	cagcagatgg	cactctgggtg	cttcctatga	60
agcaacatgc	ttgaaatcaa	gggccaacaa	ttgttgtagg	aaagcaaaat	atacctctaa	120
cacctacgtt	taccaaaaaa	gctgacatct	caaactctga	gttggtgaga	ctcaaatttc	180
tcatccccaa	agaagcctat	tacggtagtg	tgntggatgc	tttttgatc	tctgataggc	240
aggcactata	atggggggaa	atacttctga	ataaaaaacat	tggctgtctt	gcaactgtgc	300
atataatgtc	tattcaaggg	ggcagtgtgc	ctagcatgat	cctgaaatgt	tgagataaaa	360
ggaagtggc	attaaagcac	tatttgtctt	atatgaaaag	agtgactcta	tcttccagta	420
aacaagantt	cctgcaatga	aaaagaaatt	tttcccttca	ttatctataa	actatacaaa	480
ataaccttcc	tttttaacct	aagactcaaa	cattnatatt	tgattttatt	ctatttgata	540
ccaattggta	tgtccag					557

<210> 473

<211> 264

<212> DNA

<213> Homo sapien

<400> 473

cctccatcaa	cagaaaggat	aaagaccctt	tcgggtctcc	tcattaattc	tgaactggaa	60
aagccccaga	aagtccggaa	agacaaggaa	ggaacacctc	cacttacaaa	agaagataag	120
acagttgtca	gacaaagccc	tcgaaggatt	aagccagtta	ggattattcc	ttcttcaaaa	180
aggacagatg	caaccattgc	taagcaactc	ttacagaggg	caaaaaaggg	ggctcaaaag	240
aaaattgaaa	aagaagcagc	tcag				264

<210> 474

<211> 165

<212> DNA

<213> Homo sapien

<400> 474

aattcagctt	ccagaggccc	ttattagtcc	ttgttgacag	aaacatagat	ttggcaactc	60
ctttacatca	tacttgga	tatcaagcat	tggtgcacga	tgtactggat	ttccatttaa	120
acagggttaa	tttgggaaga	tcttcaggag	tggaaaactc	tccag		165

<210> 475

<211> 417

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(417)

<223> n = A,T,C or G

<400> 475

aagttctctt	cttggttttaa	acacattcct	gataacttct	aaagatgacc	aaaataaaac	60
agaatatcta	cagagatcat	tttctgaatt	ttttgtacat	ccaaggataa	caacataaaa	120
aaaataaaac	tggacagcat	tccacatcca	agtgcacaga	accatttttg	caagattaaa	180
taatgtaaac	attgggaaca	gccaaatcag	cgaagaatgc	caacacctca	aaacacctgg	240
tgttgccgct	tcattaagtg	gttcaaaatc	cagatctata	attgcgcaat	attcacctga	300
tataaaaaga	aatggatatt	aattttgaca	aatagctgca	actgagactt	ctttttattt	360
ctttatatgn	gnatatagt	aatttttatt	atttttataa	ttttatttat	tttttta	417

<210> 476

<211> 321

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(321)

<223> n = A,T,C or G

<400> 476

catttaataa	caaaaacaac	ctgtacggaa	aaccnaagg	caaccacata	gcataatgtaa	60
aatgtgcaaa	tacactttta	aatgcangtt	attctatagc	anttgcaga	tagaatttca	120
ctgtaattag	ggaatctagc	tcacctaac	ttaatagnct	tttgcatgtn	tagacaatgc	180
aattctacaa	ggnacnactc	agcgttgatg	ctaaagtatg	aaacacatcc	tcagattatt	240
catccgaaaa	tattaaaata	gcntcatggt	ttattattct	ttaatgagtc	ntgagctcat	300
ttctaaagct	tcataaagca	t				321

<210> 477

<211> 546

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(546)

<223> n = A,T,C or G

<400> 477

gctgtgggta	tattgtaaat	gaagcatcta	acatgtgcac	aacttgcaac	aaaaactcct	60
tggactttta	atctgtcttt	ctcagtttcc	atgtgctgat	tgatctgact	gatcacacag	120
gcacccttca	ttcctgtagt	ctcacaggaa	gtgttgctga	ggagactttg	ggctgcacgg	180
tacatgagtt	tcttgcaatg	acaaatgaac	agaaaacagc	attaaagtgg	caattcctct	240
tggaaagaag	caaaatttat	ttaaaattcg	ttctatcaca	cagagcaagg	agtggattga	300
aaattagtgt	actctcgtgc	aagcttgcat	atcctactga	ggcaagcaga	aacttgctctg	360
gacaaagaca	tgtttaaaac	ggcttatcat	tttgaaactct	ggaaaagtat	aagagtttta	420
actcccttta	aaatggaata	ttaatttgaa	aattatgggg	aaaattgcat	tttggtttaca	480
tgtgggtgaa	atgtttctag	aaattgggat	ggcggaagg	gggctgggtg	agtctgaagg	540
acctcn						546

<210> 478

<211> 100

<212> DNA

<213> Homo sapien

<400> 478

aagaaaagtg gtaaaatcaa gtcttcttac aagagggagt gtataaacct tggttgtgat	60
gttgactttg attttgctgg acctgcaatc catggttcag	100

<210> 479

<211> 508

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(508)

<223> n = A,T,C or G

<400> 479

gnnttccaaa ttcttctaac tcttccaaaa gccttctgcc ttagtttttt tttaaattaca	60
ccagtccttt tagtagcttt ttgatgtgat ttttaaccaa ctcccccttc tagcttcaag	120
tattcttcta aattggctct ggtctacgta aacaccctca tcttctcaag ctttaccttc	180
taacttctgc accaccagaa attaaattga tgggctttta aaataaattg gttaccaata	240
atttctcat tttttcagtg ctattttatc caatttttgg ctttatattt ttctatcttc	300
tatacttctc caatacttgt cttagcttgt ttttcatttt ctatctgaaa ctcttgacaa	360
tatcttctaa ttccctatc ttctctatc ttttcttgcg cttcccgtag ttctgcttcc	420
agnnttccac ttcaaacttc tatcttctcc aaattgttca tcttaccact cccaataatc	480
tttccatttt cgtgtagcac ctggncag	508

<210> 480

<211> 81

<212> DNA

<213> Homo sapien

<400> 480

ggtgcccttt tcctaacact cacaacaaaa ctaactaata ctaacatctc agacgctcag	60
gaaatagata aggaaaatga c	81

<210> 481

<211> 306

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(306)

<223> n = A,T,C or G

<400> 481

tcgccttcgg ccgccgggca ggtaggggn acaagacgct acttccccta tcatagaaga	60
gcttatcacc tttcatgac acgccctcat agtcattttc cttatctgct tcttagtctt	120
gtatgccctt ttctaacac tcacaacaaa actaactaat actaacatct cagacgctca	180

```

gggaatagaa accgtctgaa ctatcctgcc cgccatcatc ctagtcctca tcgccctccc 240
atccctacgc atcctttaca taacagacga ggtaacgat cctccctta ccatcaaacc 300
aattgg                                     306

```

```

<210> 482
<211> 582
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(582)
<223> n = A,T,C or G

```

```

<400> 482
ggggggaaca gtcattatac attatttaga ctcatcctt cttccagtgc ctttatgatt 60
atttcctacc ttaccattg atcttaaact gngcaggcta aaaagaggaa ccagaactcc 120
cttaagcact ttaagacta tttaaaaaat aaagntttgt tggcattgaa gagtaagctg 180
cttaagggac tgaatgaaaa gatagtacc tttgtggctg tatgaagaga gaaactgaat 240
ttctatccaa gagaccttaa tntagcctat tagggaatta tcttcccca aagtacaagt 300
aattttgcac tgcaggagaa ggataagtag atttgattta catcacattt tatacacacc 360
tttcaagang gagaaatctg cttcataaat agnaggaatc tatgcttaaa ctnaacattt 420
aatggtgacn tcttacaaca gccttgaaaa nnattggaan tcnagcntga nggnggaaac 480
tggaanaaag aatatctttc tcttctgcat ccttnatcc tcaaacttag catggattca 540
cacgctgagg aaangttnng tnacnaccng aacatttaga ta 582

```

```

<210> 483
<211> 275
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(275)
<223> n = A,T,C or G

```

```

<400> 483
gcctcactaa aataacagat ttcagtatag ccaagttcat cagaaagacc caaatggaat 60
gatttataaaa atagaacact ttaaaccagg tcagtcctat cttttttag ctgaaggcta 120
tcagtcataa cacaatttcg cgtacacctc tgctcattat ggaattacac ttaaacgaa 180
tctcaagagg gtgaccattg ttgtttcaga taccatccct aaggagagtg gttaacagga 240
agattgccag ngttactgat ggaaagaagc gcttg 275

```

```

<210> 484
<211> 434
<212> DNA
<213> Homo sapien

```

```

<400> 484
catatttcca caggccaatt tctttctggt tttctgctaa gctatttcag catttttagct 60
tttctctttt gctttgttta ctcatgattg ccagatgggt acgttacctc taagcatcag 120

```



```

atcctcacaa  attaatggtt  aaatgtaagg  gagggatttt  actctcttgc  attaaaaaaa  180
agctttattg  agatataatt  tactgtaaca  ttgactcatt  taaagtatgc  tagtcaatag  240
accaaattctt  gaataaactc  ccattcacaa  ttgctacaaa  gggaataaaa  tagctgggaa  300
tatagctaac  aaggggaagt  aagggcctct  tcaaggagaa  ctacaaacca  ctgctcaaga  360
aataagagag  gatacaaaa  aatggaaaaa  cattccatgc  tcatgaatag  gaagaatcaa  420
tatcgtgaaa  atgg  434

```

<210> 485

<211> 291

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(291)

<223> n = A,T,C or G

<400> 485

```

ncaccactgc  agccctacat  acagttgaaa  aaaaattcca  ttctgttaac  atttgtttta  60
taagttttca  cgcaatacac  aaaaaacccc  tctgcacttc  ttgtaaagaa  caaaaaagat  120
acacaacagt  taagcgtaaa  gatcacaggc  aatagcattc  aaacatggat  gtgggtagag  180
aaaggagtac  ctggcatgag  tacctgctta  gtttgactga  atccttgatt  ttttaatttg  240
cttttcatgg  gccgctcaca  acaccaacgc  tgtgtgaggt  atggtagtca  g  291

```

<210> 486

<211> 274

<212> DNA

<213> Homo sapien

<400> 486

```

ctgtaatatt  gtagttgctc  cagaatgtca  agggcagctt  acggagatgt  cactggagca  60
gcacgctcag  agacagtgaa  ctagcatttg  aatacacaa  tccaagtcta  ctgtgttgct  120
aggggtgcag  aaccggtttc  tttgtatgag  agagggtcaa  ggggttggtt  cctgggagaa  180
attagttttg  cattaaagta  ggagtagtgc  atgttttctt  ctgttatccc  cctgattggt  240
ctgtaactag  ttgctctcat  ttttaatttc  ctgg  274

```

<210> 487

<211> 184

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(184)

<223> n = A,T,C or G

<400> 487

```

tggcaccaag  attctcagct  cacggtacca  gcatctgatt  gtccgactac  ctgctgcttt  60
cctgatatt  tatacatgat  attcgnaaaa  tgtaaagaag  ctattattca  tacagacatc  120
tagagaagga  gngaagnttt  taaaaaaata  aaaaaaatac  tattttcaagc  tttagctgtg  180
ttct  184

```

<210> 488
 <211> 393
 <212> DNA
 <213> Homo sapien

```

<400> 488
ctgcattttt attgcatct gcagatgaac tggaaaatct cattttacaa cagaactggg      60
acagacgacc accatattca ctgaggtcta aatttgcagt ttccactaat gacattttga      120
tttccaaca gagatacttc tggcttact gcacagtctt ttaagagaaa tacttccatt      180
atgccacatt gtccttgatc cgtaagtgat gtgttaaggt gcttcaaagg aactctgacc      240
tctgaagtac ttgagctact ttagtatgtc cagcctattg ctttttgttt tagtgtgtca      300
ccataaatat caggggcata aaaggctatc tattcttaat tcaaggataa aacagaagaa      360
gcttgtggtg taaaacaata gttcaagatc cag                                     393

```

<210> 489
 <211> 607
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(607)
 <223> n = A,T,C or G

```

<400> 489
gtgcttatgt acttaagggg aactactcta actgggtgaa gagtangatg aagcatccat      60
gtccctacaa aggatatgaa ctcatccttt tttatggctg catagtattc catgggtgtat      120
atatgccaca ttttcttaat ccagctctatc atcgatggat atttggggtg gttccaagtc      180
tttgctattg tgaatagtgt cgcaatgaac atacatgtgc atgtgtcttt atagcagcat      240
gatttataat cctttgggta tatacccagn aatgggatag ctgggtcaaa tggattttct      300
agttctagat ccttgtggaa ttgccacact gtcttcacac atggttgaac tagtttacag      360
tcccaccaac agtgtaaaaag tggctctatt tctccacatc atctccagca cctgttggtt      420
cctgactttt taatgattgn cattccaact ggtgtgagat ggtatatcac cgtggggtttg      480
atgtgcattt ccctgatggc cagtgatgat gaacnttttt tcatgtgggt tttggctgca      540
taaatggcct gcctttnta cttctataaa atttttcann tcttattatt attcctgggg      600
gnttaag                                           607

```

<210> 490
 <211> 179
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(179)
 <223> n = A,T,C or G

```

<400> 490
cttctaggaa tactagtata tcgctcacac ctcatatcct ccctactatg cctagaagga      60
ataatactat cactgntcat tatagctact ccataaccc tnaacacca ctccctctta      120

```

gccaatattg ngcctattgc catactagtc tttgccgcct gcgaagcanc ggtaggacc 179

<210> 491
 <211> 399
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(399)
 <223> n = A,T,C or G

<400> 491
 cctctacctg taatcacatt aatttttcta aagacagggg nggtgttttg aagataaatg 60
 tcattagtct atgataatag catcatagga caattagcca ttttagactt gaccatattt 120
 tctcttttta gcatatagcc atcttgatat ttaggnggga gactactcca atggagcaac 180
 agtttcattt tacatgattg gatttagaaa ttacaaaatt ttaaactcat aagaattcta 240
 aataatttga aaatggaaac atttgacca cagtctagca gcataaatac atttataaaa 300
 tacttcattg ttgatcttag gtcattgatt taaaacagaa tttggtgact atgggcaggt 360
 ggaggggggc ngtgaggaag gtataaaaaga gaaatcttt 399

<210> 492
 <211> 482
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(482)
 <223> n = A,T,C or G

<400> 492
 ctccacctta ctaccagaca gccttagcca aaccatttnc ccaaataaag tataggcgat 60
 agaaattgaa acctggcgca atagatatag taccgcaagg gaaagatgaa aaattataac 120
 caagcataat atagcaagga ctaacccta taccttctgc ataatgaatt aactagaaat 180
 aactttgcaa ggggagccaa agctaagacc cccgaaacca gacgagctac ctaagaacag 240
 ctaaaagagc acaccgtct atgtagcaaa atagtgggaa gatttatagg tagaggcgac 300
 aaacctaccg agcctggtga tagctggttg tccaagatag aatcttagtt caactttaaa 360
 tttgccaca gaacctcta aatcccttg taaatttaac tgttagtcca aagaggaaca 420
 gctctttgga cactaggaaa aaaccttgta gagagagtaa aaaatttaac acccatagta 480
 gg 482

<210> 493
 <211> 207
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(207)
 <223> n = A,T,C or G

<400> 493

cataaatatt atactagcat ttaccatctc acttngngga atgctagtat atcgctcaca	60
cctcatatcc tccctactat gcctagaagg aataatacta tcaactgttca ttatagctac	120
tctcataacc ctcaacaccc actcctctt agccaatatt gtgcctattg ccatactagt	180
ctttgccgcc tgcgaagcag cggtagg	207

<210> 494

<211> 283

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(283)

<223> n = A,T,C or G

<400> 494

ccaattgatt tgatggtaag ggagggatcg ttgacctngt ctgttatgta aaggatgcgt	60
agggatggga gggcgatgag gactaggatg atggcgggca ggatagttca gacggtttct	120
atttcttgag cgtctgagat gttagtatta gttagttttg ttgtgagtgt taggaaaagg	180
gcatacagga ctaggaagca gataaggaaa atgactatga gggcgtgatc atgaaaggtg	240
ataagctctt ctatgatagg ggaagtagcg tcttgtagac cta	283

<210> 495

<211> 590

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(590)

<223> n = A,T,C or G

<400> 495

tatgtatata attttcttag ttactagcat agagaaatta ctgattttaa aaaacatttc	60
aaattctagc atgttgtagg attctattgc ctttctaaa aagtacatct tgcttatccg	120
atttctaaca aaactattta atttgaagaa gggagaatga atttggataa aaagcaaaaa	180
tttaaaggta ctcaaattta ggcaaaccat taaagcaatc ttagtttaca gttaattggg	240
tagaatggtc aacactttct tcaggttagt tcatggagtg gatatgcatt gatagaacaa	300
cttagagatg cttttacagt tgagaaagct cattatatatt gttatcttta agaatcagct	360
tatttatctc atatgtttgt tctttaagaa gaccaaaagag ccctgcaa atgaatgttgat	420
ttgttttttt gtttgtttta tatttttgta gagataagat ctcaactttgt tatgttgccc	480
aggctggctc caaactctca acttgaagt atctgcccac ctgagcctcc caaagtgggtg	540
ggattacagg catgagccac cgcacctgga cctgcccggg cggncgctcg	590

<210> 496

<211> 307

<212> DNA

<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(307)
 <223> n = A,T,C or G

<400> 496
 ggagattagt atagagaggn anacnttttt tcngatatt tggtcacatg gataagtggc 60
 gctggcttgc catgattgtg aggggtagga gccaggtagt tagtattagg aggggggnng 120
 ttaggggggtc tgaggagaag gttggggaac agctnaatag gttgttngnt gatttggnta 180
 aaaaacanta gggggatgat nctaataatt antgctgtgg gtggttgtgn tgattcaaata 240
 tatgngcttt ttcggagann catgtcangt ggtagtaaat ataattgttg ggaccattan 300
 ttcttan 307

<210> 497
 <211> 216
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(216)
 <223> n = A,T,C or G

<400> 497
 cattttcctc ttggtttctt cagttaagtc aaannngcac gttcctcttt ccccatatat 60
 tcatatatatt ttgctcgtaa gtgtatttct tgagctgttt tcatgttggt tatttctctgt 120
 ctgngaaatg gtgttttttt ttgttggtgn tgggtttttt tttttttttt aaactnggna 180
 ccncnaantt gaaaaaatgn ttntttttcc ctnaca 216

<210> 498
 <211> 375
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(375)
 <223> n = A,T,C or G

<400> 498
 gaatttcctg gcaccttttc tcgctagaga agattnnngtg tgactggggt gcctataagc 60
 catatagata caaactttta tctctaatac caagtcttag agggatatat taatagatct 120
 aataaattta ttcttagact tattgtttca tgggntagtg agtctttgct actggagaca 180
 atacagactt gtcagttttt ttaaaaaaaa aaaatttgcc aagctancac attaaaaana 240
 tntcctaagg ctntcathtt atgaggatga ttataaacnt ttntgngata aatatcacca 300
 taataaactg ttaagtacaa ctgcnngccn cccttanagn gaattcctnc agttanaaat 360
 ttattttttt gccaa 375

<210> 499
 <211> 215
 <212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(215)

<223> n = A,T,C or G

<400> 499

ccacnaaagc	agaagcttaa	agcatagtag	taaagaggnn	aaaaagaagg	acgaaaataa	60
atcagatgac	aaggatggta	aagaagttga	cagtagtcat	gaaaaggcca	gaggtaatag	120
ttcactcatg	gaaaagaaat	taagtagaag	gttgtgcgaa	aatcggagag	gaagcttgtc	180
acaaaaaaaa	aaaaaaaaaa	aaaaaaaaat	gtttt			215

<210> 500

<211> 489

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(489)

<223> n = A,T,C or G

<400> 500

ccactacgat	aagcaggtag	ctgggttttg	tagtgagntt	gctccttaag	ttacaggaac	60
tctccttata	atagacactt	cattttccta	gtccatccct	catgaaaaat	gactgaccac	120
tgctgggcag	caggagggat	gatgaccaac	taattcccaa	accccagtct	cattgggtacc	180
agccttgggg	aaccacctac	acttgagcca	caattggttt	tgaagtgcac	ttacaaggnt	240
tgtctacttt	cagttcttta	ctttttacat	gctgacacat	acatacactg	cctaaataga	300
tctctttcag	aaacaatcct	cagataacgc	atagcaaaat	ggagatggag	acatgatttc	360
tcatgcaaca	gcttctctaa	ttatacctta	gaaatgttct	cctttttatc	atcaaactcg	420
ctcaagaagg	gctttttata	gtagaataat	atcagtggat	gaaaacagct	taacatttta	480
ccatgctta						489

<210> 501

<211> 286

<212> DNA

<213> Homo sapien

<400> 501

aaaaacactc	aaacacagcc	ttggagggag	gagtcagttt	taaaagactc	ttataaaagt	60
aatatactgc	tagctctgaa	gaatcggagg	ctaaaatcat	ctcttcaagt	ccccagggaa	120
ttccaaagaa	ctccagggga	aggtgggatg	ggccagagag	ctctggaagc	ttccaggtct	180
gttgcaagcc	tcacctggta	cacagtaggc	tcttccaggt	ctgtcaggaa	cccaggagcc	240
ttccctagca	cacagtaggc	tcacaaaaag	ggagcactgc	tgctgg		286

<210> 502

<211> 168

<212> DNA

<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(168)
 <223> n = A,T,C or G

<400> 502
 cctatgattg tgggggcaat gaatgaagcg aacagagntt cgttcatttt ggttctcaga 60
 gtttgttata attttttatt tttatgggct ttggtgaggg aggtaagtgg tagtttgtgt 120
 ttaatatatt tagttgggtg atgaggaata gtgtaaggag tatggggg 168

<210> 503
 <211> 173
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(173)
 <223> n = A,T,C or G

<400> 503
 cctttataat aaattaggca aaagggttcag tgcnnnggcta tantggacaa catgaaactc 60
 cataaaaaatg actggatagg gggactgctt gagacttttc ttttgggcat tactaacaga 120
 attcaaagaa attccaacca cgcttatttt tccaaattct actgaaatga gag 173

<210> 504
 <211> 310
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(310)
 <223> n = A,T,C or G

<400> 504
 tagtatttcta tttaaaaatt aagttttggg gtctgtaaaa tatacaggac aatgactttt 60
 ttaaaatgta agttaatacc tcctcctcac ttgtcttaat tgaacttagg tgtttattct 120
 taaaggngga ccttgatgaa aatgttgaga tgggaagtgt tattaggcaa aacttggtat 180
 agatttctca tataactctt aattgaccct tagaatttta acaaccgcgc ctggcccaat 240
 agactgtttt ttagagtant tttaggctct cancaaaatt gaggggaaaa tacagggtgt 300
 tcccatataa 310

<210> 505
 <211> 530
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(530)

<223> n = A,T,C or G

<400> 505

cctcagggaa	cttacaatta	tggaacaaagg	ggaaggggaa	gcaagcacct	tcttcacaag	60
gcacagggag	agagagagaa	agagagtagg	ggaaactacc	ccttttaaac	catcatatcc	120
tgtgagaact	ccctcagtat	tagaagagca	tgagggaaac	cgctccata	atccaatcac	180
ctcccaccag	gaccatccct	caatacatgg	gggttacaat	tcaagatgag	gttcgggtgg	240
ggatacagat	ttaaaccata	tcagaatggt	taatgatatt	gttgatattt	accaactata	300
atcttcttag	tggtatagta	caataatgta	aaaaattgag	taaatttggt	ttctatatta	360
ttctgttttt	ggaaaacatg	tatatagtca	gggtgtttg	tctcaagaaa	atatggtaaa	420
ctctgctggt	ttgggtcactg	gtgcctagaa	tttggggatg	tacattgggt	ttgattcaca	480
tgcacatttc	cttctagttc	acagtaacta	tttctaacta	tttcccnata		530

<210> 506

<211> 352

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(352)

<223> n = A,T,C or G

<400> 506

cttgaacgct	ttcttaattg	gtggctgctt	ttaggcggtg	ctatgggtgn	taaatttttt	60
actctctcta	caagggtttt	tcctagtgtc	caaagagctg	ttcctctttg	gactaacagt	120
taaatttaca	aggggattta	gagggttctg	tgggcaaatt	taaagttgaa	ctaanattct	180
atcttgga	accagctatc	accaggctcg	gtaggtttgt	cgctctacc	tataaatctt	240
cccactat	tgctacatag	acgggtgtgc	tcttttagct	gttcttaggt	agctcgtctg	300
gtttcggggg	tcttagcttt	ggctctcctt	gcaaanntat	ttctagttaa	tt	352

<210> 507

<211> 370

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(370)

<223> n = A,T,C or G

<400> 507

cctaactaga	tcttatcaga	atagggggga	agggngtcgg	ttcatcctta	ttgagtgtta	60
atgaccctgt	aagatgtaat	ttcttttatt	tcattctgtt	acctagaaaa	tctatcacag	120
ccttgtagta	ttgattgtct	aatctataaa	gagctcagtt	tacagcatga	ctgttagtaa	180
cagggntatt	ttaatgagtg	actcttcaac	acctcagagt	ttactaaat	tccaacccat	240
cagcccagta	gtctaacatt	aagggtctta	ggaaatgaga	acttatcacc	tttcttatc	300
atgaaaagg	aacctccagg	taaccaaaaa	tagaacttcc	tctgtgttcg	ttttttatag	360
aaattactgg						370

<210> 508

<211> 129
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(129)
 <223> n = A,T,C or G

<400> 508
 ctgttaaaag aacaaactta gcaatatata acagttnggt aacaggattt ttgactattc 60
 actttgggag ttatttttaa aaatccactt ttttactgag tcttactaca taccaggcac 120
 tgtacttgg 129

<210> 509
 <211> 422
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(422)
 <223> n = A,T,C or G

<400> 509
 ntgggaagtc gtgacatcca tgggaaccca gcgctgtgat gctggtgttt gngttctccg 60
 cgagaagtga ccattgttgg agcaccatcc agagctagtg accantncag tggacagtta 120
 gtggggagaat caaaaatcct ttccagaatg tctgtttctc actacntgca ccgggngatt 180
 acaggcacca gtgcagngat gattgtactt atttgacaca tactccccgt cntectggnt 240
 nttgttcctg anaanggtgg gtaaatattc caggaaaaan aatgcacatt gaatggatgt 300
 gagagaccac attgcctctc ccactgcttt ggggagcact ttctgtcat ttctaactta 360
 ccantgctt ggtgtactat atgtatgttg tgcctcatat gttgcaaaga actaangtga 420
 gt 422

<210> 510
 <211> 238
 <212> DNA
 <213> Homo sapien

<400> 510
 ccacctatga attggtgggt tacctactca atggatagca gcacgaggac tgctgtactg 60
 cacaaaaaga agaccaaaag attacagtgg accatgggat acagaagcca gcatggcaga 120
 cagaagaaaa atagtttggg aacatgtaac taccctaagt ggaagttttg ttgtagggaat 180
 tatagtaatc acaccacatt acttggcctt tcggtaatgt gaaaaaaaaa aaaaatcc 238

<210> 511
 <211> 254
 <212> DNA
 <213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(254)
 <223> n = A,T,C or G

<400> 511
 ccnattgatt tgatggtaag ggagggatcg ttgnggctcg tctgttatgt aaaggatgcg 60
 tacggatggg agggcgatga ggactaggat gatggcgggc aggatagttc agacggtttc 120
 tatttcttga gcgtctgaga tgtagtatt agttagtttt gttgtaagng ttaggaaaag 180
 ggcatacagg actaggaagc acgataagga aaatgactat gagggcgnga tcatgaaagg 240
 tgataagctc ttct 254

<210> 512
 <211> 269
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(269)
 <223> n = A,T,C or G

<400> 512
 cctacctgta aactacagta ctttatatat ctatgggntt aataaaaaana aaatccacaa 60
 atcttaaaaa ggaactttta atgcagggct atattgaatt ggnaaactgc aacacaaaact 120
 ggcgcaacat aggtaaatga ataccaatct cactctatgt gatgcaagca tgctactttc 180
 ccactaattt aaattacttt caaccactat gagccagaat gcatgacctga accttaaact 240
 gcacttttaa aagtaacatc ttggcctaa 269

<210> 513
 <211> 266
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(266)
 <223> n = A,T,C or G

<400> 513
 ggaggggggt tgtagggggg tcggaggaga aggntgggga acagctaaat aggttggtgt 60
 tgatttggtt aaaaaatant agggggatga tgctaataat taggctgtgg gtggttggtg 120
 tgattcaaat tatgtgnttt ttggagagnc atgncantgg tagtaatata attgttgaga 180
 cgattagttt tagcattgga gtaggttttag gttatgnacc gtactctagg ccatatgtgt 240
 tgganattga nactagtagg gctagg 266

<210> 514
 <211> 271
 <212> DNA
 <213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(271)
 <223> n = A,T,C or G

<400> 514
 acatgcaana aatcgagaat cttaaaaaac annacgaanc tgccttgga ncttactgg 60
 nntangatat ttatnttgcg gctgagatac ttgaacaact tcggatcnga antagacaan 120
 aanggnant tntatactgc nncagagggt acacagntca ttgtattaga gangaacana 180
 tgggtctggt gttcacacat tggggggaan atgggcgtnn acangagagg nnganaaacn 240
 anganagcct ncctggttng cataanaaaa a 271

<210> 515
 <211> 328
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(328)
 <223> n = A,T,C or G

<400> 515
 ccaatgaggg gcaaagtgag cgncnagaag angttttgac tgaaataaat caaacacaaa 60
 aatntaagtt cacagtgaca gtttaaacia aatccaaaca aactaacaac anaaacaccc 120
 cttgntttgc ctctagtga aggtgggana acacaanctc gtcctaaaaa ttgactagta 180
 aaggggaaaa cccggtcatt tncctactct ttccangaaa tatctaattgc aagaaagaac 240
 ttctnctcat tatacngaag gaatttngaa aaatgatgta tttttggaac acctaantga 300
 aatactggaa cctgggcaag ttcaccac 328

<210> 516
 <211> 220
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(220)
 <223> n = A,T,C or G

<400> 516
 ncctnagttg aaggacccca tgtacatata ggccagggga gcagtactag gntaactaga 60
 aggatctcat ccccatatgt ggggtcattt caagtctatg gatgactacc ttcattgntg 120
 tgtgcgagat ggtttcaccc cttgaaaata tgggcacttc ancataanat agcnaaatct 180
 ttataatgat caatncatcc tacctcctt tacatgcatg 220

<210> 517
 <211> 296
 <212> DNA
 <213> Homo sapien

<400> 517

tgcgatttct	tccttgttgt	ttgcttttgg	ctgtgttcaa	tccagagagc	ttaaattgtc	60
attatttttg	gaagaaaacc	tgtatttttg	ttagttttaca	atattatgaa	atttcacttc	120
aggagaaact	gctgggcttc	ctgtggcttt	gttttcttag	tttctttttc	cgtgccgtgt	180
attttttaat	tgatttttct	tcttttactt	gaaaagaaag	tgttttattt	tcaaatctgg	240
tccatattta	cattctagtt	cagagccaag	ccttaaactg	tacagaattt	ccactg	296

<210> 518

<211> 299

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(299)

<223> n = A,T,C or G

<400> 518

gaagatagaa	aaatataaag	ccaaaaattg	gataanatag	cactgaaaaa	atgaggaaat	60
tattggtaac	caatttatth	taaaagcccg	tcaatttaat	ttctgggtgg	gcagaagtta	120
gaaggtaaag	cttgagaaga	tgagggtgtt	tacgtagacc	agaaccaatt	tagaagaata	180
cttgaagcta	gaaggggaag	ttggttaaaa	atcacatcaa	aaagctacta	aaaggactgg	240
tgtaatttaa	aaaaaactaa	ggcagaaggc	ttttggaaga	gttagaagaa	tttgggaagg	299

<210> 519

<211> 464

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(464)

<223> n = A,T,C or G

<400> 519

gctgcacatc	ggaggaaaac	tcggtaaaag	agaatgaggt	tgatatgttg	aatgtatttg	60
attttgaaaa	ggctgggaat	tcagaaccaa	atgaattaaa	aaatgaaagt	gaagtaacaa	120
ttcagcagga	acgtcaacaa	tacaaaaagg	ctttggatat	gttattgtcg	gcaccaaagg	180
atgagaacga	gatattccct	tcaccaactg	aatttttcat	gcctatttat	aaatcaaagc	240
attcagaagg	ggttataatt	caacagggtga	atgatgaaac	aaatcttgaa	acttcaactt	300
tggtatgaaa	tcatccaggt	atttcataca	gtttaacaga	tcgggaaact	tctgtgaatg	360
tcattgaagg	tgatagtga	cctgaaaagg	ttgagatttc	aaatggatta	tgtggtctta	420
acacatcacc	ctcccaatct	gttcagttct	ccagngtcaa	aggc		464

<210> 520

<211> 221

<212> DNA

<213> Homo sapien

<400> 520

ctgatattcta	cttattttaac	acaagtctct	aatacaatac	aattttatta	attttattcc	60
acatgccccca	cattagatct	ctagactcat	tcatacctaca	tacctaactt	gtatcctttg	120

acctacatct ccctacttcc tctccagtc cccaccccc acccactggt gctaaccact 180
gtttcattcc ctttttcatt ctacatatgt gagatcatgc t 221

<210> 521
<211> 312
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(312)
<223> n = A,T,C or G

<400> 521
ctgatagctt tctcttcgcc tagattaata tcttctnnet tcccattcac agccccacc 60
gacatcaaag ctttgctgtt ttatctgtca aaaatgtctt cacacttttc attcttaaat 120
aaaagtgtg agtaaggaca ttttcacaac aaatttttat ttacaaaac ttacaatgat 180
ttgaatcaa aacaactttc attatttaac tgtaaagtaa atatatattt tattaggngt 240
gtcttagttc attttgtgct gctttaacag tgtatccttg tgatagttgt ggggtggggg 300
aggggggaag ga 312

<210> 522
<211> 336
<212> DNA
<213> Homo sapien

<400> 522
ccttctttcc ccaactcaatt cttcctgccc tgttattaat taagatatct tcagcttgta 60
gtcagaccca atcagaatca cagaaaaatc ctgcctaagg caaagaaata taagacaaga 120
ctatgatatc aatgaatgtg ggtaagtaa tagatttcca gctaaattgg tctaaaaaag 180
aatattaagt gtggacagac ctatttcaaa ggagcttaat tgatctcact tgttttagtt 240
ctgatccagg gagatcacc ctctaattat ttctgaactt ggtaataaa agtttataag 300
atttttatga agcagccact gtatgatatt tttaag 336

<210> 523
<211> 172
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(172)
<223> n = A,T,C or G

<400> 523
ngacnggcnc ntggctatgt ntatagatag ggctttaacc actatctgng aagcangagn 60
gacannattc ttgctctcac atnccacngg anacgtatatt ctcttctctt acnagcgaag 120
aaccatctnt ttctaaagcc cccattctat tgcccttgct tttctctggc tt 172

<210> 524
<211> 471

<212> DNA

<213> Homo sapien

<400> 524

ccagacctgc	agaaaaactt	agcacagctc	aatctgctgt	tttgatggct	acagggttta	60
tttggccaag	atactcactt	gtaactattc	caaaaaattg	gagtctgttt	gctgttaatt	120
tctttgtggg	ggcagcagga	gcctctcagc	tttttcgtat	ttggagatat	aaccaagaac	180
taaaagctaa	agcacacaaa	taaaagagtt	cctgatcacc	tgaacaatct	agatgtggac	240
aaaaccattg	ggacctagtt	tattatttgg	ttattgataa	agcaaagcta	actgtgtgtt	300
tagaaggcac	tgtaactggt	agctagttct	tgattcaata	agaaaaatgc	agcaaacttt	360
taataacagt	ctctctacat	gacttaagga	acttatctat	ggatattagt	aacatttttc	420
taccatttgt	ccgtaataaa	ccatacttgc	tcaaaaaaaa	aaaaaacctt	c	471

<210> 525

<211> 332

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(332)

<223> n = A,T,C or G

<400> 525

cccncctgta	ttccagcctg	ggtgacccca	tctcanggaa	gaaaagttac	cagatgtcgn	60
gggtaaaggt	tggtcttcaa	gtggcctcat	aagttgtctt	gcattttaa	tcagggaatt	120
cattggacca	ataggttaca	ttttcgttcc	ttttttgttt	tggttcatct	gttaagcagt	180
gggggcctaa	ttactgctcc	tttgtaaaaa	cacattttcc	caaagaacac	tgaattaccg	240
ttcaaactgg	ttgttgatgg	gtaataaggg	ctgtttttgc	tgccccaaaa	gggcttaaca	300
atttaggcgg	atagtttact	taaaaaaaaa	aa			332

<210> 526

<211> 440

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(440)

<223> n = A,T,C or G

<400> 526

ccagggttacc	tcccctaaca	gatgtggtgt	tctgangggg	tggttaagt	cccaggaaaa	60
ataggcctta	actgttaaca	tctacagaga	agaaagcatg	gtcacactgg	caaggagtaa	120
gaagggtatt	ggtaaaaaga	aatgggagag	aaaaggga	aaagttttgg	caagacaatt	180
gttccctgct	aagaagctgc	agggtgaaa	ctttcctttc	ttctattttt	gtttttaatg	240
nctgtctctc	tgatcagnng	aaaagtga	atttctagta	tctagcacta	acgtatgacc	300
caactttgag	ggatcacaag	ctagaacaag	ttgaggattt	aaaatcctgg	ataattatat	360
acttaaagtt	catgagcata	aagctcactt	gaccatgcag	aaatgctggg	aagcagggtg	420
catggcatgg	gaatacatct					440

<210> 527
 <211> 124
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(124)
 <223> n = A,T,C or G

<400> 527
 ttcccatatg tctgttgggt gcataaatgn cttcttctga gaagtgtctg ttcctatcct 60
 ttgccccctt tttgaggact taaatgttag acctaagacc ataaaaacc tagaagaaaa 120
 ccta 124

<210> 528
 <211> 162
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(162)
 <223> n = A,T,C or G

<400> 528
 ctgcgggaga aatatgggga caagatgttg cgcangcaga aaggtgaccc acaagtctat 60
 gaagaacttt tcagttactc ctgccccaaag ttctgtctgc ctgtagtgcc caactatgat 120
 aatgtgcacc ccaactacca caaagagccc ttctgtcagc ag 162

<210> 529
 <211> 409
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(409)
 <223> n = A,T,C or G

<400> 529
 cctttaaaat atagcttata aaatgtatac tatnngccag gagagctcac atttttctgc 60
 agttttccag tggacctgcc tatggaatac tgtaaagaaa aatctgcaaa aatattccta 120
 gcaattgaat cagtgccttt aaataaaaaga agtggagagg ggcttggtta aattattctg 180
 acaagttttc ttgctagtgg ttgccaaaat taaggatatt tgaagtgtcc tatcacccaa 240
 atttggcttt aagaaaaagc tatattctgn gtctataggg tgaagccac actatctgtg 300
 ctgcattctc aatgatacaa tacctatctg gaaactttcc tgttttgcca atgggtgcac 360
 aaatctaaaa cattttatca caaaaggtac ttgaatttaa atttctttt 409

<210> 530
 <211> 325

<212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(325)
 <223> n = A,T,C or G

<400> 530
 ccgccagtgt gatggatatt tgcagaattc gccctttcna gatttgngcc cgggcaggtc 60
 catggctagg attatagata gttgggtggt tggggnaaat gaggtaggca ggagtcagag 120
 gaggttagtt gtggcaataa aaatgattaa ggatactagt ataagagatc aggttcgtcc 180
 tttagtgttg tgtatggcta tcatttggtt tgagggttagt ttgattagtc attgttgggt 240
 ggtaattagt cggntgttga tganatattt ggagggtggg atcaatagag ggggaaatag 300
 aatgatacgt actgcggcgg gtagg 325

<210> 531
 <211> 173
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(173)
 <223> n = A,T,C or G

<400> 531
 ccaattgatt tgatggtaag ggagggatcg ttgaccncgt ctgttatgta aaggatgcgt 60
 agggatggga gggcgatgag gactaggatg atggcgggca ggatagttca gacggtttct 120
 atttctgag cgtctgagat gttagtatta gttagttttg ttgtgagtgt tag 173

<210> 532
 <211> 395
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(395)
 <223> n = A,T,C or G

<400> 532
 caggtcctac tatgggtgtt aaatttttta ctctctctac nggggttttt cctagtgtcc 60
 aaagagctgt tcctcttttg actaacagtt aaatttacia ggggatttag agggttctgt 120
 gggcaaattt aaagtgaac taagattcta tcttgacaa ccagctatca ccaggctcgg 180
 taggtttgtc gcctctacct ataaatcttc ccactatttt gctacataga cgggtgtgct 240
 cttttagctg ttcttaggta gctcgtctgg ttccgggggt cttagctttg gctctccttg 300
 caaagttatt tctagttaat tcattatgca naaggtagag gggntagtc ttgctatatt 360
 atgcttggtt ataatttttc atctttccct tgccg 395

<210> 533

<211> 290
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(290)
 <223> n = A,T,C or G

<400> 533
 ctgaaccatt atgggataaa ctggtgcaaa ttctttgcct tctctacttc tcaactgattg 60
 aacataagct tccagggtct ccctgaaaac caaaatgaaa acaatgtcaa aatattagat 120
 aaatcacata aaacagttaa ggggatacca atatataaaa attattaggt aagctcattt 180
 ctggaactgt taatgctcgg ttccacaatc caagnngacc aacagccttc actcagntac 240
 tggngagtnt actatggtta ctacngntac tacctttagt gtnaaaaact 290

<210> 534
 <211> 334
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(334)
 <223> n = A,T,C or G

<400> 534
 ccgccagtgt gatggatatt tgcagaattc gcccttagcg agnnagccgg gcaggtccat 60
 ggctagggtt atagatagtt ggggtggttg tggggnatga gtgaggcagg agtccgagga 120
 gggtantttg tggcaataaa aatgattaag gatactagta taagagatca gggtcgtcct 180
 ttagtggtgc gtatggctat catttggttt gagggtagnt tgattagnca ttgttggng 240
 gtaattantc ggctgttgat ganatatttg gaggtgggga tcaatanagg gggaaatana 300
 atgatcagtn ctgcggcngg tnnagacctn gccc 334

<210> 535
 <211> 557
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(557)
 <223> n = A,T,C or G

<400> 535
 nccataagct tcaagtgcgca aaagggtcaag gccagtgtta atttggtatt tcttaaataa 60
 ctttcccttt cattttttaa ttataaattt aacttctaac atgttttatg gttaaaattg 120
 tacttttttc ctttagcgac attcaaattc atcacaatca ctttgtgaaa ttgttcgcct 180
 gagcagagac cagatgttac aaattcagaa cagtacagag cccgaccccc tgcttgccac 240
 tctagaaaag tatgtgttaa actctgttct tgttcttctt tcatattgat gctgttccat 300
 gtgttaccat tgtgagtgtg tggtaagtgt tccttatgtg ggaatcatgt gccttgaaaa 360

taaccttggg	tgggtgagaa	ggtagggaaa	cctgcttctt	ttatctcaag	taaaagtttt	420
ggcagggtaa	agaagataaa	tgacatttat	atctagactt	ttgagttttc	caattatttg	480
gtaaaaatgg	gaaattctgt	agaagccctt	ccttaaaaat	gggggaagtc	catttnanaa	540
aattaactgg	taggtca					557

<210> 536
 <211> 372
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(372)
 <223> n = A,T,C or G

<400> 536		
gttccaacct	tcatttctga	aactgttcta
ttacccttc	agtctagaat	tagaattaca
agtcctaga	agataaggac	tagggagttc
ctcatatcta	gagtccttag	atgaaactta
ttcattccca	agggaggcca	tgtctggaga
tataccattt	cagtggagaa	aattgttggg
ggaagtcact	gg	
		60
		120
		180
		240
		300
		360
		372

<210> 537
 <211> 284
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(284)
 <223> n = A,T,C or G

<400> 537		
ccttctgatg	caaacagaaa	ggaaatgttg
atgggaaaat	ttttttgggg	aaatgctgag
attgatacac	atgctagatt	gagagaattc
acttttagtg	ttcaatccaa	agaaacactg
ttctctcaga	taccaaacaa	tgggttacct
		agaccaaact
		ttgg
		60
		120
		180
		240
		284

<210> 538
 <211> 293
 <212> DNA
 <213> Homo sapien

<400> 538		
gtacatagta	ggtgtatata	tttatgggct
gtgaacaag	cacatcaaca	agaatggggg
ctacatgtca	tttcctaata	ttaaagaaaat
ggtgaaaaag	tccatttgag	ttggggagcag
		gggttgtgtt
		cctggatttg
		ggttgtagg
		60
		120
		180
		240

acagtgtaaa aaggcttcac aggggaacat tcttttctga taaaggaaag cag 293

<210> 539
 <211> 468
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(468)
 <223> n = A,T,C or G

<400> 539
 tttcnataaa ctttattttt agagcagttt taagnnggta gcaaaattga ttagaaggna 60
 cagagatgtc ccatacacct cctactccca cacatgcaca gccttcccca ttatcaatag 120
 cccccaacag agggatacat ttgttaacaa ctgacgaacc tacatatcat tatcacccaa 180
 agtccacagt ttatattatt ccttctggag aattttcaaa tacagaaatt cctctaccag 240
 gaataaacta ncaatttcct ctcggttttc tataaattta attattattt cagaaattag 300
 cctatcttta caggagaaaa tggtataaac catgaaaaga ctatcaaata cacaaggaag 360
 tgaatgntat ataaaaaatg taccatctcc taaacaacta cctgcattcc cttcttggtg 420
 gtaagttata atttggnata gttctgatca tctgtttaat taatttgc 468

<210> 540
 <211> 397
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(397)
 <223> n = A,T,C or G

<400> 540
 ctgttttatt aattccccc aattgcagcac acttntctct tccaacattc atcagtcaga 60
 tcagagtcca cggctttttc aaaattttaga taaactggct tacattttgt aatgatgtcc 120
 ccagacaaca cccactcca acccattctg ttgttacta ttagtttaca acatgcatgt 180
 gcctttactt tcattttcat agtattttaa aatggaaggg cactcccaaa ttacttttaa 240
 cccctttaat aatctctctc ctctgctctc ctctggctct ccagacaact gttgatttac 300
 tttcctttat gatggattag tttgcatttt ctagaatttt atatgactga catataaagn 360
 ttttatgttt ctccccttg ggtttcttca tgtggca 397

<210> 541
 <211> 248
 <212> DNA
 <213> Homo sapien

<400> 541
 cctagatagg ggattgtgcg gtgtgtgatg ctagggtaga atccgagtat gttggagaaa 60
 taaaatgtgc atagtggggg ttttatttta agtttggttg ttaggtagtt gaggtctagg 120
 gctgttagaa gtcctaggaa agtgacagcg agggctgtga gttttagggt gagggggatt 180
 gttgtttgga aggggggatgc gggggaaatg ttgttagcaa tgagaaatcc tgcgaatagg 240

cttccggc

248

<210> 542
 <211> 366
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(366)
 <223> n = A,T,C or G

<400> 542
 aatcggccct ctagatgcat gctcgagcgg ccgccagtgt gatggatatc tgcagaattc 60
 gcccttgagc gatanccgg gcaggtccaa ttgatttgat ggtaagggag ggatcgttga 120
 ccncgtctgt tatgtaaagg atgcgtaggg atgggagggc gatgaggact aggatgatgg 180
 cgggcaggat agttcagacg gtttctatct cctgagcgtc tgagatgtta gtattagtta 240
 gttttgttgt gagtgttagg aaaagggcat acaggactag gaagcagata aggaaaatga 300
 ctatgagggc gtgatcatga aagggtgataa gctcttctat gataggggaa gtacgctctt 360
 gtanac 366

<210> 543
 <211> 460
 <212> DNA
 <213> Homo sapien

<400> 543
 cctactatgg gtgttaaatt ttttactctc tctacaagggt tttttcctag tgtccaaaga 60
 gctgttcctc tttggactaa cagttaaatt tacaagggga ttttagagggt tctgtgggca 120
 aatttaaagt tgaactaaga ttctatcttg ggcaaccagc tatcaccagg ctcggtagggt 180
 ttgtcgctc tacctataaa tcttccact attttgctac atagacgggt gtgctctttt 240
 agctgttctt aggtagctcg tctggtttcg ggggtcttag ctttggtctt ccttgcaaag 300
 ttatttctag ttaattcatt atgcagaagg tataggggtt agtccttgct atattatgct 360
 tggttataat ttttcatctt tcccttgccg tactatatct attgcgccag gtttcaattt 420
 ctatcgcccta tactttatctt gggtaaatgg tttggctaag 460

<210> 544
 <211> 116
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(116)
 <223> n = A,T,C or G

<400> 544
 ccgccagtgt gatggatatc tgcagaattc gccctttgga gngctngcgc ccgggcaggt 60
 ctgtttcagc agtcctcct tcttcttccc gogangatct cgagccttga tcttgg 116

<210> 545

<211> 380
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(380)
 <223> n = A,T,C or G

<400> 545
 cgacggatcg atnagctnga tatcgaattc ggacgagcat ggcgtattgc tgcagatatg 60
 gattcttcag aatgctccat gacaaatgta ctgacgggaa gncnatctaa aggaggcatt 120
 gtnatgagag aaaggtctcg agctccagat aaagagagat acagagttct tggaattgga 180
 gttgcagaaa cagtaagaca atcgattgtg gggaagcgtt ctttttagaga atctttggcc 240
 ttactccaa agcgttgttc ttcatcaata ataagtagct cgtgccgaat tcctgcagcc 300
 cgggggatcc actagttcta gagcggccgc caccgcggag gagctccagc ttttgttccc 360
 tttagtgagg gttaattttcg 380

<210> 546
 <211> 418
 <212> DNA
 <213> Homo sapien

<400> 546
 ccagggcaat taggcaggag aaggaaataa aggggtattca attaggaaaa gaggaagtca 60
 aattgtccct gtttgccgat gacatgattg tatatctaga aaacccatt gtctcagccc 120
 aaaatctcct taagctgata agcaacttca gcaaagtttc aggatacaaa atcaatgtac 180
 aaaaatcaca agcattctta tacaccaata acagaccaac agagagccaa attatgagtg 240
 aactccatt cacaattgct tcagagaata aaatacctgg gaatccaact tacaagggat 300
 gtgaaggacc tcttcaagga gaactacaaa cactgctca aggaaataaa agaggatata 360
 aacaaatgga agaacattcc atgctcatgg gtaggaagaa tcaatatcat gaaaatgg 418

<210> 547
 <211> 172
 <212> DNA
 <213> Homo sapien

<400> 547
 cctgaggttg ggagaaattt tgtccatttc tttagaacca aaattggcaa ccagagagta 60
 tttgatgtt acacaaaata tctagtttcc ctttctagcc taaattgggt tgtttatagc 120
 acccgtctct ccatttgaga aaaatgggta ggatgctggt gcagggatga gg 172

<210> 548
 <211> 367
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(367)
 <223> n = A,T,C or G

<400> 548

```

ggtctgactt aagagaaaca atggaaggca agaggcagta gaataatata ttcaaaagat    60
gcaaaggaaa aaaacctctc agccacgaat tccttatcca gcaattattt ttcaaaaatg    120
aaaataacac aaagacttag ccagataaac agaaacatta actgaagttg ttgctggcag    180
acctaccata taaaaataaa aaactctaaa aaaattccta tggctaaaag caagttacag    240
aagacagtca cttgaatcca cattttaaaa aaagcactga tatacgtaat attgacatta    300
taaaagacag taaaaatgca tttcttcttt ataataaatn gcttattaaa taacatgtgt    360
ataatgg                                           367

```

<210> 549

<211> 418

<212> DNA

<213> Homo sapien

<400> 549

```

ccaaatcaga acctagagtg agcattctat aaactcacct ttgctttgat ccttgaagat    60
cacaagtttt gatactgttg aaatctctac tctttcaaca ctttaattaa atggcattta    120
gaatttcata tacttctgtt gttgtttcca caatcttaaa ctggatttag aaatacttat    180
aatgtaaatg caagagcttt aacttagtaa ccgtatttcc tattttttgt tgtttttctt    240
ttgccagaat ttctgtttgt ctacaataaa gtccagcgaa atacagtatt tggttagggt    300
acttgtaaac ataaaatttt atcatttgta gagtttttac ttaaccttcc tattctctag    360
tctctataat ctttcaatga agataaccag ttacgaatat ctctataacc atattagg    418

```

<210> 550

<211> 234

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(234)

<223> n = A,T,C or G

<400> 550

```

cctaccgcc gcagnactga tcattctatt tccccctcta ttgatcccca cctccaaata    60
tctcatcaac aaccgactaa ttaccaccca acactcaca caaaactaac taatactaac    120
atctcagacg ctcaggaaat agaaaccgtc tgaactatcc tgcccgccat catcctagtc    180
ctcatcgccc tcccatccct acgcatcctt tacataacag acgaggtcaa cgat        234

```

<210> 551

<211> 542

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(542)

<223> n = A,T,C or G

<400> 551

```

caccctacc ccnntectca taaaagttnc tctccctgga tctctttttt cctcatgag      60
tgcccggttg cccaagtcaa aaacctggga gtgatataaa ctccccacac atccagtcag    120
tcactcatca actctattga ttctgtctgc taaatatatn tcaattgtat taacttaaac    180
atatgcatan ggcactttct tcttcaactgc atttttgtgg gctgcactta cctttcaggt    240
aacgacaaca ctggccccctc ttgcccttct agtcagaagt gccaaaatga tgagagctag    300
ccatgacaaa cccacagcca acattacact gaatgtgcaa aactggaagg gcatccaaac    360
agaggagggg agagaggaat agacaggaag tcaaactgtc tctgtttaca gatgacatgt    420
ttctatatct ataaagcccc atagtcttgg ccccaaagct tcttctgctg ataaacttta    480
gcaaagtctt agcatacaaa atcaatgtgc aaaaattact aacagtccta tacatcaagt    540
ca                                                                    542

```

```

<210> 552
<211> 411
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(411)
<223> n = A,T,C or G

```

```

<400> 552
cctggntgac aaggaggtgc ctgtnatgtg aagatttgag gaaagagcat tccaggcagg      60
gggaaggctt gatgcaaagg gtctactgca ggcattagct gagcttattt aaagatcaga    120
atgaaggcca ttgtggctag aacagagtgg acaggaagga atggtaccag gcaaagctga    180
agaagtggc aggattgagc tctcataant catggcaaag agttcccatt tcattgtttg    240
acggaataaa attggaaggt cttaagtagg agaagatttg attagattta cattttacga    300
agaagcactc tggatgttat gtgaagaaat ggcctttgca gggcaagggt ggaaacaaag    360
agatcagtta ggaaattatt ggagtagctg aggattggat gaggggatgt g              411

```

```

<210> 553
<211> 631
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(631)
<223> n = A,T,C or G

```

```

<400> 553
ccgggattag aactaaaaca agtgagatca cccctctaata tttttctgaa cttgggttaat      60
aaaagtttat aagattttta tgaagcagcc actgtatgat attttaagca aatatgttat    120
ttaaaatatt gatccttccc ttggaccacc ttcattgttag ttgggtatta taaataagag    180
atacaaccat gaatatatta tgtttatata aaatcaatct gaacacaatt cataaagatt    240
tctcttttat accttctca ctggccccct ccacctgccc atagtcacca aattctgttt    300
taaataaatg acctaagatc aacaatgaag tttttataaa atgtatttat gctgtagac     360
tgtgggtcaa atgtttccat tttcaaatta tttanaattc ttatgagttt aaaatttgta    420
aattttctaaa tccaatcatg taaaatgaaa ctggtgctcc attggagtag tctcccacct    480
aaatatcaag atggctatat gctaaaaaga gaaaatatgg tcaagtctaa aatggctaatt    540
tgtcctatga tgctattatc atagactaac gacntttatc ttcaaaacac caaattgtct     600

```

ttagaaaaat taatgtgatt acaggtagag g

631

<210> 554
 <211> 558
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(558)
 <223> n = A,T,C or G

<400> 554
 ccaggntagt ctccaactcc tgaccttagc tgatccaccc acctcggcct cccaaagtgc 60
 tgggattaca ggcattgagcc actgcgcccg gccaaacttg atatgcattt ttaaataagt 120
 taatacatta ttcattggttt agtctcatta tatattctat ggtccacttt gaaatttcat 180
 ctaacaaaaa tcattcttcat cctgcaattt gaggtttgga cacaatgggg attgatcagt 240
 aattttcttca tatgcccttt ctcaaggaaa tagttttccta tgaaaaaaaaa gtcctatggt 300
 ttcattgtaag ttctctttttt ggagaagaaa aggagacatt cttacttagc actctcagtt 360
 ttacaaaacg ctgccaacct taaaatttgt ctattgattc ccaaggcaca caaccaatag 420
 tctgtcaata acccggaata acattttcttt aaggccccag taactttcac atgtttgggt 480
 tccaatcttc acctagaatc ttgttaagaa aagtaaacca ttcactcttc tagaaactct 540
 aaggttgctt cttagggg 558

<210> 555
 <211> 212
 <212> DNA
 <213> Homo sapien

<400> 555
 ccaggatatt gcataatggc ttttcttctg ttgcctttgt tcctttgtgg cccagctaa 60
 ttgcctgaga gtgccactgt tagttttcaa ctctttctga tagaaaccct gtgtactaac 120
 atggaaatct taggtaatct gctttttcaa agcacaatgc agaatttatt ggcgggtggtg 180
 taactttaag aatatccgag aagccaccaa gg 212

<210> 556
 <211> 219
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(219)
 <223> n = A,T,C or G

<400> 556
 ccattgtgtc atctggagag aaggggaaac agcaagtgca aaggccctga gatggaacat 60
 atctggagaa ttcgaagaat ggtaagaagg ccagagtgga gcagaacaag tgtgggagag 120
 agttgtagga gatgagatca aaggctagga atgaagtga aggccatgtc atgtgacctt 180
 gtatgtcctt gtaaggcttt tttttttttt ttttncctt 219

<210> 557
 <211> 482
 <212> DNA
 <213> Homo sapien

```

<400> 557
cctactatgg gtgttaaatt ttttactctc tctacaaggt tttttcctag tgtccaaaga      60
gctgttcctc tttggactaa cagttaaatt tacaagggga tttagagggg tctgtgggca      120
aatttaaagt tgaactaaga ttctatcttg gacaaccagc tatcaccagg ctcggtaggt      180
ttgtcgcttc tacctataaa tcttcccact attttgctac atagacgggt gtgctctttt      240
agctgttctt aggtagctcg tctggtttcg ggggtcttag ctttggctct ccttgcaaag      300
ttatttctag ttaattcatt atgcagaagg tataggggtt agtccttgct atattatgct      360
tggttataat ttttcatctt tcccttgccg tactatatct attgcgccag gtttcaattt      420
ccatcgctta tactttattt gggtaaatgg tttggctaag gttgtctggg agtaaggtgg      480
ag                                                                482

```

<210> 558
 <211> 679
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(679)
 <223> n = A,T,C or G

```

<400> 558
ctgtnaaaat tctgaacctt tccccaaaag aaaaaccgtg aaatacaagt tttaggaggt      60
ggagcaaaga aaagccaagt tatttaaaac caataaacac aagagacaat tctgctggag      120
aatttacttt ctccaaaaca tcaaattggac tttaaagcag aagaccacat tttatgagaa      180
agttatgtca ctgaaaagct tcatgtaaag tgactttgta aatggaatat ttttaaatga      240
taaaaagaaa ataacttttc caggaatcct ttggagaggc tgataaccag atattaaatt      300
atcaattttg ccaaagtgga cttttaaaaa atgtgttact tttaaaaact aacttgaaag      360
aatttatgag gcaatctatc tgagtatggt tattgttgct ccattggctt tcaggatttt      420
ggtcatttca ctgttaactc ttacatcaga gaataaagaa aagaaaatga aactttgtta      480
ggaactggga tggaaaatgt agtcccagac agatctactg acctcgactg agtttcagaa      540
atatccaggg attttgggta ttcattgcctt tcttttgtga ctttctttca aattagccaa      600
ttaaagatac cccttcaatc accggtgaca tcagtacaac agtttttcaa cagttttctc      660
tctcctgacc aaacagttt                                                                679

```

<210> 559
 <211> 488
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(488)
 <223> n = A,T,C or G

<400> 559

```

ccccactgta ctccagcctg ggtgacccca tctcaaagaa gaaaagttac cagatgtcat      60
gggtaaaggt tggctctcaa gtggcctcat aagttgtctt gcattttaa t cagggaatt      120
cattggacca ataggttaca ttttcgttcc tttttgttt tggttcatct gttaagcagt      180
gggggcctaa ttactgctcc tttgtaaaaa cacattttcc caaagaacac tgaattaccg      240
ttcaaactgg ttgttgatgg gtaacaaggg ctgtttttgc tgccccaaaa gggcttaaca      300
atthagcgcg atagtttact taaaaaaaaa aatcctttgg agacatactg aaaatgcaaa      360
ctagtttcta aattatcaat tccctacatg aanaagcagt ttgccanagt ttagtctcan      420
aaaatgactg gttggctcta tttaaatcan aaccaattt ctacgcacct gcccgcccg      480
ccaagggc                                     488

```

```

<210> 560
<211> 602
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(602)
<223> n = A,T,C or G

```

```

<400> 560
cctanttaag aattccttgc cttagtgggtg aacaaggact aaacacagac aatgggtgaa      60
acacagacgc taattcacat aacagagagt aggcaacctt aagaatgaat tgatgcagac      120
tcctatagaa ttcctctgtt atgactgggt tcttattttc tctccttgt atgtagttga      180
aatttcatca ttatgaatag ttccttggat ctttttttaa agttgtgaat gcgagtgtt      240
ggctttgtaa tacaactttt tagtatccag aagataacca gtgctctacc aataaagatc      300
ttttgataca aagggtttta acttctgcca gttcttactc atttttttca ggtttttat      360
acatttctta aacaacacat acattatgta aaatataaga attaatgtac attctcaagg      420
ccagattcag tgacaaaatg cactaccoga atctagtaac acatttactc cttgctgcac      480
ataagtggcg tgtaagaaat acagggtata ttgttttgtg atccatgcag taaatgttca      540
caaatatcag gcaaacaaact agacgntctt cagctactaa aattaactgt cccagtcaca      600
aa                                             602

```

```

<210> 561
<211> 683
<212> DNA
<213> Homo sapien

```

```

<400> 561
gtctattttt aaaaagaaaag aaaaaaacca cttttttata gtccctagct ttgccatag      60
ccgccttaa gtggaaggaa agttaatcac ttaactatgt tttataaaaa gaaaaagg      120
cttggaatgc tattactgtt cacacaaagt atgattctgt ttgaataagg caaatgctcc      180
tttttttaaa aaaagacatt actgtaatat caaaaaccgt ggcagtttgt atacaactct      240
gggcttgatt ttttttaaaa aaacagaatg aattgatgtc ttattttata aatgttctat      300
atattattag agaaaacttt atattgcctt ttttatcaat catgtaacag gcttatagct      360
ttccaacaga gctgcttgcc aaacaatttt tttgtttat taaacagtc tgaaacaaac      420
aggatcagca tttacttaag atgttaagaa tgaggacttt taatcagccg aaccaagata      480
ttgttacctg tatgcattcc caaagtctag atgctcagta tgttcagtc tatctttcag      540
aatcagtgaa ccgattaccc tttttttggg attcactcta catctgccaa cctagttcac      600
cttggttttg tgtctgctgt agaaggggaa cataacttgg ttaaacgta gggattatca      660
ttgtatacat gctgtgaaca tgt                                     683

```

<210> 562
 <211> 420
 <212> DNA
 <213> Homo sapien

<400> 562
 gcactttttt tccagtaagg attcatctct tgcctcctta tatggtcatt atattttata 60
 ttttacatat ttataaacat gacatatgta tttatgttcc acaaagggct ttgaatagaa 120
 tttacacata gagttccctg ggttgatgtg tttatcaaaa tggaagataa agtgaattaa 180
 ttacttaaat atttaacact attgaataga aataatttcc ccaatattgc ttcattgattt 240
 agacagtcta ttaaatgttt aagcaaggca ctgactaag tttattaaga caaattttgg 300
 aatatgtgca gaaatatgac ctggctaata gtacagagtc aaagctgggt gaatgggtgtt 360
 atatagtgga ttcagattga tgtggcagtg gtggttacac taggggcact aaggttatcc 420

<210> 563
 <211> 482
 <212> DNA
 <213> Homo sapien

<400> 563
 ctccacctta ctaccagaca accttagcca aaccattttac ccaaataaag tataggcgat 60
 agaaattgaa acctggcgca atagatatag taccgcaagg gaaagatgaa aaattataac 120
 caagcataat atagcaagga ctaaccctta taccttctgc ataataaatt aactagaaat 180
 aactttgcaa ggagagccaa agctaagacc cccgaaacca gacgagctac ctaagaacag 240
 ctaaaagagc acacccgtct atgtagcaaa atagtgggaa gatttatagg tagaggcgac 300
 aaacctaccg ggcttgggtga tagctgggtg tccaagatag aatcttagtt caactttaac 360
 tttgccaca gaacctcta aatccccttg taaatttaac tgttagtcca aagaggaaca 420
 gctctttgga cactaggaaa aaaccttgta gagagagtaa aaaatttaac acccatagta 480
 gg 482

<210> 564
 <211> 302
 <212> DNA
 <213> Homo sapien

<400> 564
 ctggaagtga aggtactaat atacaaatgg ctcttgtttc tgaatatgtg atataatttg 60
 tgaatctttg gaaactgaat tttttctatg gagtgc aaat atagaagggt tattttacaa 120
 tgtttgttgt gaaaagaatt cactttgtaa acaactatta aggctggaag tttagtgaag 180
 gtgcatagtt ttgaaagcta cacagggtgaa aaatcaaact tattgtttgt aattttgctg 240
 ttacatgtta agttactttg acagcaattt tctaatagata atgtgattta tgatttaaaa 300
 gg 302

<210> 565
 <211> 554
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature

<222> (1)...(554)

<223> n = A,T,C or G

<400> 565

ccanngtgac	atcatggcaa	tacagcaaga	attctgnnat	ttatttagaa	gcctcaagga	60
gaaggatcct	ggagcccctg	aatgagagtt	tcttctccat	gcctctcccc	agtcaaaata	120
catggaaata	ttcatagaag	cattgtaccc	agcatgataa	ggaaggatgg	agaatggttc	180
cttatatctc	tggtcacaag	acatcaacac	tcttaagtaa	ctgtatgaaa	taaattctct	240
gctgaaagca	aataaaccat	ctgaaaggtc	ttctggttac	ttacacagat	ttcctagaga	300
atctgaaatc	agcctaacag	ggaagattaa	tttttaaagt	aatccaagtt	aatgaaagca	360
aagaactctt	atacagaaat	acattttcct	attataaagc	aggactacct	tccctaattt	420
ctgatagacc	taggacaatt	tgaatgggca	ttgaaattct	tttggttgaa	ttacgcaaac	480
aagcaaagga	aaagtctcaa	ttattattgg	aaaatttggg	gagagattat	tatctcttga	540
tctcctagtn	natt					554

<210> 566

<211> 631

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(631)

<223> n = A,T,C or G

<400> 566

ncgaagctgt	gaanncattc	acacggaatc	tgganggtat	tactgtaact	tcttataata	60
cataatataa	aagtttttga	aagatataga	cacaattaac	ccctaaacaa	cacactatct	120
gattctcaaa	agcaatggct	atttaacaag	atgtaaaagg	acaataacat	atcaaagaac	180
tttcacacac	ctaaagatag	catttagcag	caagttagtc	agacaaaaca	aacataaata	240
tcttcacatt	tcctatgttt	gtttttaact	ttacttcata	aagccactga	taattgaggt	300
ttctttcaag	tataagattt	ctaaaattaa	aaactgtttt	tgacatattt	ttataaagaa	360
ataaaaagca	aaacgcaatc	caactattta	tatgagtcct	tcttctccaa	cagctttaga	420
tgtttttctg	agtacttttt	acacagaata	tttttattaa	aatcagttct	aattcattta	480
tgcagattag	gggaaaatga	ttcataataa	attaacttta	aaattacctt	ctatctgctt	540
ctacctctat	ccccccatca	ccaccaaatc	tgttgctaca	gtgaactgta	gccaatgtct	600
gtttgagggg	gcccaaagca	tctggtaatc	t			631

<210> 567

<211> 510

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(510)

<223> n = A,T,C or G

<400> 567

cctatnatag	cttctctagc	tatcatactc	caatcagcna	aaaatgagaa	aatgttgaga	60
aatagaagat	aattcctcat	ttaaggncac	cttctanaat	ttgtgcttaa	nantctgttt	120

```

tcttctcatg ggccagcact tcggcaactg ggaaaaatta nnggtacagg gatctaggna      180
atactgttta tttgagcaat aatatattgn gctaacgttc aggcatecta ttactgagaa      240
ataagggaaa atgagtgtaa agtacaacta agagtctcgg ctacagggaa aaataccatc      300
agttaaatat ccatagtcct agagcattta tgtaaaactg caatttgaat cctgcaatac      360
atthttggctt tttcctcagt gataccatgt gtgggaagtt gttctgtcaa ggtgggtcgg      420
ataatttgcc ctggaaagga cggatagtga ctttcctgac atgtaaaaca tttgatcctg      480
aagacacaag tcaagaaata ggcattggtgg                                     510

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<210> 568
<211> 180
<212> DNA
<213> Homo sapien

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<220>
<221> misc_feature
<222> (1)...(180)
<223> n = A,T,C or G

```

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<400> 568
ttaatntgac ncacgcttat gcggaggaga atgnnttcat gttacttata ctaacattag      60
ttcttctata gggatgata ttggtccaat tgggtgtgag gagttcagtt atatgtttgg      120
gatttttttag gtatgggttg ttgagcttga acgctttctt aattgggtggc tgcttttagg      180

```

```

<210> 569
<211> 237
<212> DNA
<213> Homo sapien

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<400> 569
ccaattgatt tgatggtaag ggagggatcg ttgacctcgt ctgttatgta aaggatgcgt      60
agggatggga gggcgatgag gactaggatg atggcgggca ggatagttca gacggtttct      120
atttcctgag cgtctgagat gttagtatta gttagttttg ttgtgagtgt caggaaaagg      180
gcatacagga ctaggaaagca gataaggaaa atgactatga gggcgtgatc atgaaag       237

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<210> 570
<211> 352
<212> DNA
<213> Homo sapien

```

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<400> 570
ctgtctctcc atttagagcc ccagttgggc ctgacctctt acaaatttgg tgttttctact      60
ttgatgttta tgaaccgatt gcattaaaaa tgcaggataa tgattcaggg ttagagaaac      120
tattattttat acaaattgtgg ttaacacctc atcattttta attggctgtg ctaataatgc      180
tcattgtgct cttcaggggt atgtgtgtgt gtgtgtgtgt gttttgcctg aatctgcaac      240
ctacatttgc tctggcagta tggtgagtat atgctagaat agaattggacc taggcaactc      300
taaggtccta caactaaata cacttactta ggaaacctcc taaataagta gg              352

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<210> 571
<211> 402
<212> DNA
<213> Homo sapien

```

<400> 571

ctgatttttaa	caataactac	tgtgttcctg	gcaatagtgt	gttctgatta	gaaatgacca	60
atattatact	aagaaaagat	acgactttat	tttctggtag	atagaaataa	atagctatat	120
ccatgtactg	tagtttttct	tcaacatcaa	tggttcattgt	aatgttactg	atcatgcatt	180
gttgagggtg	tctgaatgtt	ctgacattaa	cagttttcca	tgaaaacgtt	ttattgtgtt	240
tttaatttat	ttattaagat	ggattctcag	atatttatat	ttttatttta	tttgtttcta	300
ccttgaggtc	ttttgacatg	tgaaaagtga	atttgaatga	aaaatttaag	cattgtttgc	360
ttattgttcc	aagacattgt	caataaaaagc	atttaagttg	aa		402

<210> 572

<211> 70

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(70)

<223> n = A,T,C or G

<400> 572

tggatccgag	ctcggtagca	agcttggcgt	aatcatggtc	atagctgttt	cctgtgntcg	60
ttttacaacg						70

<210> 573

<211> 423

<212> DNA

<213> Homo sapien

<400> 573

ccaatgggtt	cttagtgaaa	gagtacacta	gctctgaatg	caatgccctc	agaaagatat	60
cattcataga	gacatacaaa	gcacatggca	acatgacatt	ggaatacacg	attctgagca	120
tcttcattca	tgaccaacct	ggctatagat	ttcagatgtc	ctcttggctc	gaaggatata	180
tgggatatacc	atgctcactt	gcattccttt	ccctttaatt	tcattttcta	agtccttctt	240
gtattgtttc	taaaagaaca	gaaaataatc	ttggagcttt	gcttaagctt	taatagcgat	300
gttgaaattt	acatgtttga	atctcaaagc	cacccatgtg	gaaagaaaac	ttatgctctt	360
tccagctatg	attcacggca	tttattttta	actttgtatc	ttgctgctgt	cttacctggc	420
tgg						423

<210> 574

<211> 129

<212> DNA

<213> Homo sapien

<400> 574

ctgttaaaaag	aacaaactta	gcaatatata	acagtttgct	aacaggattt	ttgactattc	60
actttgcgag	ttatttttta	aaatccactt	ttttactgag	tcttactaca	taccaggcac	120
tgtacttg						129

<210> 575

<211> 684

<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(684)
<223> n = A,T,C or G

<400> 575
ccagatntga cttttcaaaa ctactcacat tgtgaaaaan gcaggaacaa atctagtttc 60
aagttcagca tgccgttccc tgtttaattc ataaaacaca actggcagaa gtattacttg 120
aagcaaaaaca aaagtaacgt gggaaacttg ttatttgcta agccacaatg tatttttcca 180
ggaatagcat aaatttgcca tctttcttgt gtctatggaa aaggggttta gaattgtttc 240
actaaaaatt aaatttctat attgtcaaac atgattgtat actcaaattt taaaatgtga 300
agggaaacact tactaagcat ttcttggtga tgccactata ttaagtccta gtaatatgat 360
atagttttatt tcaatttttt ttcaactcat acttccttta aaatagcact gaccaaaga 420
aagttaacat gagcttcacg tacaattttt aatctttttg cagaaaaata aactgagaaa 480
ggctaaaatt gttttattta agccactata ccaagacata ttgatttcac caatataaaa 540
attgagatag tttacatttt ttggtacatc tttaaaatct ggtatgtatt tttatactga 600
cagcacatct caatttggac aagctacatt tccagggctc aatagtcacc atgaatctca 660
attgtaatca aagaggttgg cctg 684

<210> 576
<211> 134
<212> DNA
<213> Homo sapien

<400> 576
ccttatttct cttgtccttt cgtacagggg ggaatttgaa gtagatagaa accgacctgg 60
attactccgg tctgaactca gatcacgtag gactttaatc gttgaacaaa cgaaccttta 120
atagcggctg cacc 134

<210> 577
<211> 133
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(133)
<223> n = A,T,C or G

<400> 577
ctgtctctcc attnagaagc cccantnggt cctnacctct tacaaaatttg gtgttttcac 60
tttgatgttt atgaaccgat tgcattaaaa atgcaggata atgattcagg gttaganaaa 120
ctattattta tac 133

<210> 578
<211> 200
<212> DNA
<213> Homo sapien

<400> 578

cctcaaactct atcttcaaag gtgacccagc aatcagtgct aatgccttta ctgtagttaa	60
cctggtaatt tcattcttta gtctctccaa gaaaatctga agtgtattag gcaagtcaga	120
acccaaattg tctccaaggt tgcaaataat ttgtcccata caggaaatag ccctttcctt	180
gacttctga tcaatgtcag	200

<210> 579

<211> 402

<212> DNA

<213> Homo sapien

<400> 579

ctgattttta caataactac tgtgttcctg gcaatagtgt gttctgatta gaaatgacca	60
atattatact aagaaaagat acgactttat tttctggtag atagaaataa atagctatat	120
ccatgtactg tagtttttct tcaacatcaa tgttcattgt aatgttactg atcatgcatt	180
gttgagggtg tctgaatgtt ctgacattaa cagttttcca tgaaaacggt ttattgtgtt	240
tttaatttat ttattaagat ggattctcag atatttatat ttttatttta ttgttttcta	300
ccttgaggtc ttttgacatg tggaaagtga atttgaatga aaaatttaag cattgtttgc	360
ttattgttcc aagacattgt caataaaagc atttaagttg aa	402

<210> 580

<211> 245

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(245)

<223> n = A,T,C or G

<400> 580

ccaattgatt tgatggtaag ggaggggatcg ttgacctcgt ctgttatgta aaggatgcgt	60
agggatggga gggcgatgan gactaagatg atggcgggca ggatagttca gacngtttct	120
atttcctgag cgtctgagat gttagtatta gttagttttg ttgtgagtgt taggaaaagg	180
gcatacagga ctaggaaagca gataaagaaa atgactntta gggcgtgatc atnaaanggg	240
ataaa	245

<210> 581

<211> 294

<212> DNA

<213> Homo sapien

<400> 581

tgcagcgcaa gtaggtctac aagacgctac ttcccctatc atagaagagc ttatcacctt	60
tcatgatcac gccctcatag tcatttttct tatctgcttc ctagtctgt atgccctttt	120
cctaacactc acaacaaaac taactaatac taacatctca gacgctcagg aaatagaaac	180
cgtctgaact atcctgcccg ccacatcctc agtccctcct gccctcccat cctacgcct	240
cctttacata acagacgagg tcaacgatcc ctcccctacc atcaaatcaa ttgg	294

<210> 582

<211> 230
 <212> DNA
 <213> Homo sapien

<400> 582
 gaggtcgccc tcatagtcac tttccttata tgcttcctag tccctgtatgc ccttttccta 60
 acactcacia caaaactaac taataactaac atctcagacg ctcaggaaat agaaaccgtc 120
 tgaactatcc tgcccgccat catcctagtc ctcacgcgcc tcccatccct acgcacccct 180
 tacataacag acgaggtcaa cgatccctcc cttaccatca aatcaattgg 230

<210> 583
 <211> 481
 <212> DNA
 <213> Homo sapien

<400> 583
 ccaaggggtgt tctgcctgcc tcagcctccc aaagtgctgg gattacaggt gtgagccact 60
 gtgcctgacc acaggaaaac ttatttaaata gagagatttg actcgaaaaga tcccggttttt 120
 ttaaggctct tagttcttaa aagcggcaca taatagaatt agtataatcc caaataaatt 180
 ttcagtagat ttttggtgta acttgagaag atgattctgt catttttagt gacaatttaa 240
 aagacctgaa attgtctaca gccatagaaa gtgaactact gatagttgtt tctgtaaagt 300
 tttattggaa cacaaccaca cctatttggt catctgtatt gtctttgggt actttgtgca 360
 gagaccatgg cccacaaacc taaaacattc actttctagc tctttaagaa ataattggcc 420
 cactgacacc ctgggtcttaa ggtctagacc aattatttct caagagtatt agctgaatca 480
 g 481

<210> 584
 <211> 306
 <212> DNA
 <213> Homo sapien

<400> 584
 ccaattaaga gctaaattta caaaataatc tctatcagga ggctttaagg tttaatgtct 60
 ctaaagtcctc tatggatata agaggcttga atgtactgaa ttcaaatttg gtttttaaata 120
 gttataatag tttaggcccg agagccacat atttctgtct aagaatagaa agcatagcta 180
 gctgccacac cagaatattc atatagaggt ggggggcaag aacaaaattt attcatttga 240
 tacatagaaa tgggactact tagaatagac tcataataga aagcatcatc tgggtttctca 300
 tctcag 306

<210> 585
 <211> 308
 <212> DNA
 <213> Homo sapien

<400> 585
 ccagaatggt acagagtgga ggggtgttctg ctaatgactt cagagaagta ttttaagaaaa 60
 acatagaaaa acgtgtgcgg agtttgccag aaatagatgg cttgagcaaa gagacgggtg 120
 tgagctcatg gatagccaaa tatgatgcca ttacagagg tgaagaggac ttgtgcaaac 180
 agccaaatag aatggccta agtgcagtgt ctgaacttat tctgagcaag gaacaactct 240
 atgaaatgtt tcagcagatt ctgggtatta aaaaactaga acaccagctc ctttataatg 300
 catgtcag 308

<210> 586
 <211> 416
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(416)
 <223> n = A,T,C or G

<400> 586

cctgtctttg	aatggatgaa	atagggttaat	aaaaaacatc	actgttttaa	aactagaaca	60
ctgaaaaatt	ctaggaaagc	ttattttccc	ttatattttt	atggnacttt	caacacttna	120
caacactatt	tnaattaann	ttntttctag	agtttatann	atatcagtac	attcttttct	180
gtggatgcaa	taatatagaa	tcttattnca	aatcttactg	gcaggntctn	ttaaattctt	240
caacggntgn	catagtgatt	aacccaaatt	agttatgatt	tctgcctatc	tgtgtgagaa	300
cttacagggg	aaattgttct	aaacctgagg	aacatgaagt	aactgtactg	cacactccaa	360
atgatgacag	tcattttata	tcaccttcaa	ttaccaaca	gcttttaata	gtctgg	416

<210> 587
 <211> 382
 <212> DNA
 <213> Homo sapien

<400> 587

cctactatgg	gtgttaaatt	ttttactctc	tctacaaggt	tttttcctag	tgtccaaaga	60
gctgttcttc	tttgactaa	cagttaaatt	tacaagggga	tttagagggg	tctgtgggca	120
aattttaaagt	tgaactaaga	ttctatcttg	gacaaccagc	tatcaccagg	ctcggtaggt	180
ttgtcgcttc	tacctataaa	tcttcccact	attttgctac	atagacgggt	gtgctctttt	240
agctgttctt	aggtagctcg	tctgggttctg	ggggctcttag	ctttggctct	ccttgcaaag	300
ttatttctag	ttaattcatt	atgcagaagg	tataggggtt	agtccttgct	atattatgct	360
tggttataat	ttttcatctt	tc				382

<210> 588
 <211> 307
 <212> DNA
 <213> Homo sapien

<400> 588

cctactcttc	tccgtccatt	gtactatctg	cccgtggtgg	ggatggcagt	aggatcatat	60
ttgatgactt	ccgagaagca	tattattggc	ttcgtcataa	tactccagag	gatgcgaagg	120
tcatgtcctg	gtgggattat	ggctatcaga	ttacagctat	ggcaaaccga	acaattttag	180
tggacaataa	cacatggact	aatacccata	tttctcgagt	agggcaggca	atggcgctca	240
cagaggaaaa	agcctatgag	atcatgaggg	agctcgatgt	cagctatgtg	ctggtcattt	300
ttggagg						307

<210> 589
 <211> 89
 <212> DNA
 <213> Homo sapien

<400> 589
 cctgggtgat tgaggatgca atgagctgtg attgtgccac cacactccag cctgggcaat 60
 acagcaagac tgtctcaaaa aaaaaaaaaa 89

<210> 590
 <211> 456
 <212> DNA
 <213> Homo sapien

<400> 590
 cctcagttct tgattgtggt tgacggggcg tcaccatgaa ggagcccatt tagtataaag 60
 cttccaacct tttctcttaa tcgtttcttt aatcttttaa accatcttca agtgcataagg 120
 ggagtttccg atgccagagg atgaaagcaa gtgctctctc caccctctcc tcccagagtg 180
 aaaacaaatc cttttgctga tacttgtttc aaaagcatcc attgtaaagc ttctcagtga 240
 cacaaaatac tgagaggtaa ctttttatca atcaaaccac atacccaat ttaacacctt 300
 tcaatgctct gaattcaact gacagactaa aggggtgttc ctgtaacagt ctgaaatatt 360
 aagtgttttt tttgttttgt ttttaaactt tatttcagaa aacttcctct tggggtagga 420
 aagtacacat gaagcagcaa agtaacgaag aaaaac 456

<210> 591
 <211> 289
 <212> DNA
 <213> Homo sapien

<400> 591
 ccaattgatt tgatggtaag ggaggggatcg ttgaccccggt ctgttatgta aaggatgcgt 60
 agggatggga gggcgatgag gactaggatg atggcgggca ggatagttca gacggtttct 120
 atttcctgag cgtctgagat gttagtatta gttagttttg ttgtgagtgt taggaaaagg 180
 gcatacagga ctagggaagca gataaggaaa atgactatga gggcgtgatc atgaaagggtg 240
 ataagctctt ctatgatagg ggaagtagcg tcttgtagac ctacttgcg 289

<210> 592
 <211> 435
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(435)
 <223> n = A,T,C or G

<400> 592
 cgcgttagat gcgccttttc cggcctgtgc gtctgctctg gttcctctca ggcagcaaag 60
 ctggggaagg aagctcaggc aggagcctcc ccgacaccac agcggcacaa gcagcagcta 120
 aagcacgcga ctttgctctg ctaacctttt acttaaataga ggttttgcca aatccacatc 180
 tggaaccgca tcacacccat ttgcaaggat gtttggtctt tgatgaaact gcactctctac 240
 tgcacatgan ggctttcatt gtaggacaag aggagagttc gtttattttt gtaactgttt 300
 tacatgttcc gattanttaa tcggnagctt atgtcatttg ctatgcctgt tgtcttctaa 360
 tctctcctta ctaaaacatt acttcaaatt tnaattgacc cttgtttata atttatttaa 420
 cgggatttgn gtgtc 435

<210> 593
 <211> 633
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(633)
 <223> n = A,T,C or G

<400> 593

ctgttttagtc	agataattgt	gtccgaattg	attangaaaa	taatagacca	gccataaagc	60
agcataaaat	attatgaaac	tattccagaa	gttcagtaat	atctttggga	cctgctcata	120
gcccagttt	tgtgaatact	ttttagtta	aaaaaaattt	ttactttacc	agggcattgc	180
aattcttttc	catcagtga	tttcattcta	cagacttttc	agagcatctc	ataatcagtc	240
aacaaatcta	tttcaaatgt	gtttgttact	aagcaacggt	tgctaagagc	ttctgtaatt	300
aagatgaaag	ttccaaggta	acaatgcccc	aacacagcac	cattttcacc	attttctgat	360
aatgcaggag	taggatggct	aaaagtga	gaagaatcta	ctctatggaa	agcatggcac	420
ctgaaatttc	tgaagatatt	ggctgtcctc	tagcttatat	gagagagagt	gtttgtgctt	480
tactaatcaa	ccagtcattt	ttttcttggt	tggtgaaat	gtacattcca	gacatgaaca	540
ggtagagtat	gtgttggggg	caggtttata	ctgcctgggt	gtgctgagac	agggccacgt	600
ggtgatgtaa	atgatgctgn	ctgacacgtg	cag			633

<210> 594
 <211> 501
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(501)
 <223> n = A,T,C or G

<400> 594

cctttacaag	atgctggtac	cttgatcttg	gacnngggcag	gctccaagat	ggaaagaaaag	60
tgagcatctg	cttttttaggg	attatccagt	ctatactact	ctgttctagc	cacacaaaac	120
aggttaagac	agaaattggt	accaagagtg	gggtgttact	acagcaaata	cctgaaaatg	180
tagaagaggc	tttgaaatgt	ggtaattgga	agaagctggt	agaatttgga	ggagtaggct	240
agaaaatgtc	tgtattttca	tgaatggagc	attaagaata	attccgggtga	ggccataggg	300
aaagtctaaa	acttttcaga	aattatgtaa	gcgattgtga	ttagtagggt	ggtagaaata	360
tagacagtaa	aagcaattct	gatgtggttt	cagaggaaaa	tgaaaaatat	tagaaactga	420
aggaaggggc	atccttgcta	taaactggca	aagaacttggt	ctgaaatgtc	tccatgtcca	480
agagatttat	ggcagaaatg	t				501

<210> 595
 <211> 383
 <212> DNA
 <213> Homo sapien

<400> 595

```

ctggtcacca tcatcccttt aatcaactca cacctgttta aagagtgttt ctgatttgac      60
cttcatccct tagtttactg gcgttaaaaa aagtctcagc aattttcatt atttctcgtg      120
ggtctcatta tcaaacccttt acttatttcg gcatatttcc tctgggcttc ttctagtttc      180
tgccttacia gcaatgctgt tctgtaaatt tattgaaacc tctggaacat ttcaccttta      240
gagatggagg atggaaggat tggtagcaga agaggggctaa gatacgtttt ctgtcttgag      300
ctgaaagcac agtctactct ccttcgtttt gtcgatgaga aagttgaggc cagaggggag      360
gtgacatgtt tagagtcacc cag                                     383

```

<210> 596

<211> 266

<212> DNA

<213> Homo sapien

<400> 596

```

ccatggctag gtttatagat agttgggtgg ttggggtaaa tgagtgaggc aggagtccga      60
ggaggttagt tgtggcaata aaaatgatta aggatactag tataagagat caggttcgtc      120
ctttagtgtt gtgtatggct atcatttggt ttgaggttag tttgattagt cattgttggg      180
tggtaattag tcggttggtg atgagatatt tggaggtggg gatcaataga gggggaaata      240
gaatgatcag tactgcggcg ggtagg                                     266

```

<210> 597

<211> 383

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(383)

<223> n = A,T,C or G

<400> 597

```

ctggtcacca tcatcccttt aatcaactca caccngttta aagagtgttt ctgatttgac      60
cttcatccct tagtttactg gcgttaaaaa aagtctcagc aattttcatt atttctcgtg      120
ggtctcatta tcaaacccttt acttatttcg gcatatttcc tctgggcttc ttctagtttc      180
tgccttacia gcaatgctgt tctgtaaatt tattgaaacc tctggaacat ttcaccttta      240
gagatggagg atggaaggat tggtagcaga agaggggctaa gatacgtttt ctgtcttgag      300
ctgaaagcac agtctactct ccttcgtttt gtcgatgaga aagttgaggc cagaggggag      360
gtgacatgtt tagagtcacc cag                                     383

```

<210> 598

<211> 266

<212> DNA

<213> Homo sapien

<400> 598

```

ccatggctag gtttatagat agttgggtgg ttggtgtaaa tgagtgaggc aggagtccga      60
ggaggttagt tgtggcaata aaaatgatta aggatactag tataagagat caggttcgtc      120
ctttagtgtt gtgtatggct atcatttggt ttgaggttag tttgattagt cattgttggg      180
tggtaattag tcggttggtg atgagatatt tggaggtggg gatcaataga gggggaaata      240
gaatgatcag tactgcggcg ggtagg                                     266

```

<210> 599
 <211> 294
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(294)
 <223> n = A,T,C or G

<400> 599
 ccaattgatt tgatggtaag ggagggatcg ttgaccacgt ctgttatgta aaggatgcgt 60
 agggatggga gggcgatgag gactaggatg atggcgggca ggatagttca gacggtttct 120
 atttctgag cgtctgagat gttagtatta gttagttttg ttgtgagtgt taggaaaagg 180
 gcatacagga ctaggaagca nataaggaaa atgactatga gggcgtgac atgaaagggtg 240
 ataagctctt ctatgatagg ggaagtagcg tcttgtagac ctacttgccg tgca 294

<210> 600
 <211> 213
 <212> DNA
 <213> Homo sapien

<400> 600
 agatattggg ctgttaattg tcagttcagt gttttaatct gacgcaggct tatgcggagg 60
 agaatgtttt catgttactt atactaacat tagttcttct atagggtgat agattggtcc 120
 aattgggtgt gaggagtcca gttatatgtt tgggattttt taggtagtgg gtgttgagct 180
 tgaacgcttt cttaattggt ggctgccttt agg 213

<210> 601
 <211> 471
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(471)
 <223> n = A,T,C or G

<400> 601
 ncctactatg ggtgttaaatt tttttactct ctctacaagg ttttttccta gtgtccaaag 60
 agctgttctt ctttggacta acagttaaatt ttacaagggg atttagaggg ttctgtgggc 120
 aaattttaaag ttgaactaag attctatctt ggacaaccag ctatcaccag gtcggtagg 180
 tttgtcgctt ctacctataa atcttccac tattttgcta catagacggg tgtgctcttt 240
 tagctgttct taggtagctc gtctggtttc ggggggtctta gctttggctc tccttgcaaa 300
 gttatttcta gttaattcat tatgcagaag gtataggggt tagtccttgc tatattatgc 360
 ttggttataa tttttcatct ttcccttgcg gtactatata tattgcgcca ggtttcaatt 420
 tctatcgctt atactttatt tgggtaaatg gtttggtctaa gggtgtctgg t 471

<210> 602
 <211> 482
 <212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(482)

<223> n = A,T,C or G

<400> 602

tgagcataca gcaataaaaa taacataatt tntatgtgta caatatttat ggaatacgtt	60
actggaacag ataaataatt tagttaataa catgacaaag aacagaaatt gtatacacta	120
tacagcatag taatagaata atgaatgatt aaagttatta atattaggta gaaaatgaag	180
ggtatctttg agagcagaac tcaaggaagc aagcaatttg ccttatgagg aaagagttac	240
ctgtggataa aggagaaaact gaaaaattta caagtcaaga ctttttgagc aaaaacaaaa	300
atatgactat gagtcaccaa ttcagtacag tgaaaaaaa gttgaagaga tatcttgga	360
gtaaaccatg ttgtggaaga gcagggtttt gataatcatg ggattattct gaatgaattt	420
taaatgcgat aggaatatat gagataattt caccagagaa taatatgac atgtttgcat	480
tt	482

<210> 603

<211> 372

<212> DNA

<213> Homo sapien

<400> 603

gttccaacct tcatttctga aactgttcta gagcactttg tctttctcgt agttcataac	60
ttacccttc agtctagaat tagaattaca ttatctgttt tactacttta ctgactgta	120
agctcctaga agataaggac tagggagtgc atctctgtat tccaccagaa ggtacagtga	180
ctcataacta gagtctttag atgaaactta ctgagttgaa taacttaata tatttctgtt	240
ttcattccca agggaggcca tgtctggaga tagaccttga atttaataaa ttttaggcac	300
tataccattt cagtggagaa aattgttggg aaatttgggg ggtatggatat ataaggggga	360
ggaagtcact gg	372

<210> 604

<211> 468

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(468)

<223> n = A,T,C or G

<400> 604

gcngttttga gtgagtttct taatcctgag ttctggnttg attgcactgt ggtctgagag	60
atagtttggtt ataatttctg ttcttttaca cttactgagg agagctttac ttccaagtat	120
gtggctgatt ttggaatagg tgtggtgtcg tgctgaaaag aatgtatatt ctggtgattt	180
ggggtggaga gttctgtana tgtctattag gtccgcttgg tgcagagttg agttcaattc	240
ctggatagcc ttgttaactt tctgtctcgt tgatctgtct aatgttgaca gtggggtggt	300
aaagtctccc attattattg tgtgggagtc taagtctctt tgtaggtcac taaggacttg	360
ctttatgaat ctgggtgctc ctgcattggg tgcacatata tttaggacag cnagctcttc	420
ttgttgaaatt gatcccttta ccattatgta atggccttgn ctcttttg	468

<210> 605
 <211> 288
 <212> DNA
 <213> Homo sapien

<400> 605
 ccaattgatt tgatggtaag ggaggggatcg ttgacctcgt ctgttatgta aaggatgcgt 60
 agggatggga gggcgatgag gactaggatg atggcgggca ggatagttca gacggtttct 120
 atttcctgag cgtctgagat gttagtatta gttagttttg ttgtgagtgt taggaaaagg 180
 gcatacagga ctaggaagca gataaggaaa atgactatga gggcgtgatc atgaaagggtg 240
 ataagctctt ctatgatagg ggaagtagcg tcttgtagac ctacttgc 288

<210> 606
 <211> 572
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(572)
 <223> n = A,T,C or G

<400> 606
 gaatnaaatg aatgaaatag aaaatataat tgagagcttc aacaacagac tataccaaat 60
 ggaggaaaaa atttctgaac ttgaagatag atcttttgaa ataacacaag cagtggcaaa 120
 aatgaattraa aaagaataag gaaagcctaa aggatttatg agatatcatt aagcaagcaa 180
 atattcatac tatgggcatt ccagatggaa aaaagaaggg taaagggtgag gaaatcatat 240
 ttaatgaaat aatagcagaa aatttccgga gtcttgggag agagatgagc atttaggtcc 300
 agggagctca aagaacccca aacagattca acccaaacag gtcctctctg gagcccaaca 360
 tagtcaaatt gtaataagta aaagacaaag aattccaana agcattcaag agaaaagagt 420
 caagtcataa ataagggaat ctccattagg ctaacagcag atatctcagc agaaagctta 480
 cangccanga gagaatggga tgatatattc aaagtacttg aaagcagggg tnggggaaac 540
 cctgctagct aaaaatatta tacccttgca aa 572

<210> 607
 <211> 178
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(178)
 <223> n = A,T,C or G

<400> 607
 ctcggggtaa tctcccagca agaggtcagg tcctggntgt gcgtcccagg gtgtcagtga 60
 aattggctgc tcccctgacc cagggcacct tcatgcgtct tcacagcagg actactgtga 120
 ccaaggccag acctttcatc ttcaaaaaga ctttgactaa aaatgcttta aaaaagca 178

<210> 608

<211> 416
 <212> DNA
 <213> Homo sapien

<400> 608
 cctgtctttg aatggatgaa ataggttaat aaagaacatc actgtttaaa aactagaaca 60
 ctgaaaaatt ctaggaaagc ttattttccc ttatatTTTT atggactttt caacacttaa 120
 taacactatt tcaattaagt tttctcctag agtttatagt atatcagtac attcctttct 180
 gtggatgcaa taatatagaa tcttattcca aatcttactg gcaggttctc ttaaattctt 240
 caacggctgt catagtgtt aacccaaatt agttatgatt tctgcctatc tgtgtgagaa 300
 cttacagggg aaattgttct aaacctgagg aacatgaagt aactgtactg cactctcaa 360
 atgatgacag tcattttata tcaccttcaa taccacaaca gcttttaata gtctgg 416

<210> 609
 <211> 648
 <212> DNA
 <213> Homo sapien

<400> 609
 ctgatctctc agcagaaaact cttcaaacca gaagagagtg ggggcccaata ttcaacattc 60
 ttaaagaaa taattttcaa cccagaattt catatccagc caaactaacc ttcacaagtg 120
 aaggagaaat aaaatccttt acagacaagc aaatgctgag agattttatc accaccaggc 180
 ctacctaaa agagtctctg aagggaagcac taaacatgga aaggaacaac cagtaccatc 240
 gaggctagga agaaaccgca tcaactaagg agcaaaataa ccagctaaca tcataatgac 300
 aggatcagat tcacacataa cgatattaac tttaaatgta aatggactaa atgctccaat 360
 taaaagacac agactggcaa attggataaa gagtcaagac ccacaggggt gctgtattca 420
 ggaaaccat ctcaccgtgc agagacacac atagggtcaa aataaagggt tggaggaaga 480
 tctaccaagc aaatggaaaa caaaaaaagg caggggttgc aatcctagtc tctgataaaa 540
 cagactttaa accaacaag atcagaagag acaaagaagg ccattacata atggtaaagg 600
 gatcaattca acaagaagag ctaactatcc taaatatata ttgcaccc 648

<210> 610
 <211> 310
 <212> DNA
 <213> Homo sapien

<400> 610
 ccagctcttc tctgtcacat tcttatttct gacttctgcc tggctttcag tttctgccc 60
 accttggett tttcccagct tgaacctaat agaactccag agtttggggg gaggcccagc 120
 cttttgttt ctgctcttga agcatattca cacataaaaa gttgtattct cttacacaaa 180
 ctgttttgag gctcttaccg tagtcgaagg tatcttagat cttccttagt gatctcatta 240
 agaatatccg aaagtgtata accctcttca acaatctgaa acaaagatca gatccttaag 300
 agctgagcag 310

<210> 611
 <211> 254
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature

<223> n = A,T,C or G

ctgttttttac	atctaaagca	atagactaga	actgaattnt	cttctacata	gtaaaatcac	60
aattgtggaa	ttacaggaat	tctgggtgata	ttaaggtgaa	acaacaaaac	acaaaaggcc	120
ctattttaac	agttgatgtg	acagtaagtt	ttaatagaac	ctgtaacttc	attttggaaa	180
tgcttctcca	ccaataagg	cctttttccc	ctatttaagg	agccagatgg	attgaaagat	240
gtggaaatag	gcag					254

<213> Homo sapien

<223> n = A,T,C or G

ctgactatat	catgtcacca	tcatagccaa	tacaacattt	ttgccatact	tcctaaaaaac	60
cttttcgcat	acactgatca	tgtactttat	cgcactttc	taacatcctg	accaaacaga	120
cacccacacc	tcttatagag	tacactgtga	gagaataaca	tggacttgat	atggcatcac	180
acttgtttta	aagcaaaaaa	aaaagaaaaa	gaaaagaaaa	aaaaa		225

<213> Homo sapien

<223> n = A, T, C or G

ccatcagact	tcttgggtgc	ctggctatat	tcaatgtgaa	gtaaaaaata	tcccaagtct	60
tacacaaaa	tagaggctct	gacttagaag	tatgctttta	gctttctttt	taaataagac	120
attctggaag	aaaaaaaaag	aaaaaggaaa	gaaaatcaag	tttgaaacac	agttaacact	180
tattttggca	agaaagcaac	caaaatctaa	aaagcataaa	ctatgngtcc	aaatgnaaaa	240
ggnattacag	aacaaactgc	aagaggggaa	aattaaagcc	ncactgaacg	aaaaaataca	300
gtatgtctaa	catttttgga	ttgnaattta	aaccctaagg	gcaaaagctg	aaaaatcatg	360
cttanacctn	ggncgngacc	acnctaaggg	cgaattccan	cacactggcg	gncgttacta	420
gtqqatccna	nctcgttacc	aagcttggcg	taatcctngg	catagctggt	t	471

<213> Homo sapien

<400> 614

```

gttatTTTTT agaatggctc tcccatcttg agtatgtgtg atgtttcctc atgtatgaat    60
gaagcatata catctttgtc agaagtatcc cagaagcaat tctgtactct cctcattatg    120
ttctattggg tggggccatgg tttttgattt gtctcattac tgatgatggg tacttttatt    180
atttgataaa ggttgtatat aacttatcta ttatggcata atacattagc taaaaccttg    240
gcggtgtaaa acagcagata cttacgtttc tcataggaat ggctctattg agtacctctg    300
tctcaaggct tctcaagagt ttgtagctac cttgttggct ggggttgagg tctgacctaa    360
aggcttagtt aggggggtgg agaaatcttc catatgttct ttgctacgtg gacctcacag    420
g                                                                           421

```

<210> 615

<211> 242

<212> DNA

<213> Homo sapien

<400> 615

```

cctcctatTT attctagcca cctctagcct agccgtttac tcaatcctct gatcaggatg    60
agcatcaaac tcaaaactacg cctctgatcg cgcactgcga gcagtagccc aaacaatctc    120
atatgaagtc accctagcca tcattctact atcaacatta ctaataagtg gctcctttaa    180
cctctccacc cttatcacaa cacaagaaca cctctgatta ctctcgccat catgacctt    240
gg                                                                           242

```

<210> 616

<211> 392

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(392)

<223> n = A,T,C or G

<400> 616

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cctaatttTg agattgtgaa agcagctttt agtttaactt atttacagac cccttataat    60
taccatgttt tttttttnt tcctaaatct nttgggttcag cttgngaatt ttacgtgccc    120
gtaaagtngg gatgttgaat nggcccttnt ttgttctggc agngagtcaa gngtccanca    180
ttttttcata agngtttttt aaaatngttc tccancattt tatggctcct cctcccatg    240
tcctcaaacc cagcaaaagc gtanaggcan aattanagga cccncccggg cggccgntaa    300
gggcnaattc cagcncactg gcggccgtta ctagnnggat cnagctcggn nccaagctng    360
gcgtaatcat ggnccatagc gtttcctgtg an                                     392

```

<210> 617

<211> 215

<212> DNA

<213> Homo sapien

<400> 617

```

cctactatgg gtgttaaatt ttttactctc tctacaagggt tttttcctag tgtccaaaga    60
gctgttcctc tttggactac cagttaaatt tacaagggga ttttagagggt tctgtgggca    120
aatttaaagt tgaactaaga ttctatcttg gacaaccagg tatcaccagg ctcggtaggt    180
ttgtcgctc tacctataaa tcttcccact atttt                                     215

```

<210> 618
 <211> 433
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(433)
 <223> n = A,T,C or G

<400> 618
 cttttgtntg cctgttttgt ggactggctg gctctgttag aactctgtcc aaaaagtgca 60
 tggaatataa cttgtaaagc ttcccacaat tgacaatata tatgcatgtg tttaaaccga 120
 atccagaaaag cttaaacaat agagctgcat aatagtagtt attaaagaat cacaactgta 180
 aacatgagaa taacttaagg attctagttt agttttttgt aattgcaaatt tatatttttg 240
 ctgctgatat attagaataa tttttaaatg tcatcttgaa atagaaatat gtattttaag 300
 cactcacgca aaggtaaagt aacacgtttt aaatgtgtgt gttgctaatt tttccataa 360
 gaattgtaaa cattgaactg aacaaattac ccataatgga tttggttaat gacttatgag 420
 caagctggtt tgg 433

<210> 619
 <211> 259
 <212> DNA
 <213> Homo sapien

<400> 619
 ctgcagtgtc cctttttata tcatgctagt gttgagacat acttgactaa cttgggaaca 60
 gttcgatata ttgacaaccg tcaacttaag aaaatcaaca gcttttggcc ccagcgtcca 120
 agtgaacttt tcatggagtg cagaatctca aatggacaaa atactttgtc tttttaata 180
 ctgaaaattt aattattagt actatgactg aaagattctt catggctaaa aagctctgca 240
 tcaaactcaa ttcaggagg 259

<210> 620
 <211> 393
 <212> DNA
 <213> Homo sapien

<400> 620
 ccaccaaagc cacacggaga ttctgtcagg cgctgagaca ccacagcctt ttcaatctta 60
 gggaaagaaa tcaagtcata taaattaata tcaacaggta aggtcattga gcaattgtct 120
 ttcaactgtc taagacttta tcaacttaaga tcataaacac agaagcagggt cataaaaata 180
 gcttttctta aggttttagga gaattttagt gggcacttac ttgataatct gaattttcta 240
 gtcagaagtt taaataccac cttttaaaaa cataaaattt aatttgtaac aagttattaa 300
 caaagcagta ttgtcgaaag ttttaagctt tctcccaata atttaattac attaattaaa 360
 tttttaccat tctaattggtt acaaagtaac cag 393

<210> 621
 <211> 563
 <212> DNA
 <213> Homo sapien

<400> 621

ctgacaatga	taaaattatc	tctatatggg	caaacgcgtg	ctctttgtcg	aagaagaaag	60
cttcagcttc	atgttccagg	tgagttaatt	aggcaatgta	tgaatgctaa	tatctctttc	120
acataatttg	cttaagatct	gtcttaggac	tctcgtctgg	cccatatggg	tttccaaggg	180
cagaagggcc	tctttttgat	gagaggcagt	tttcagtaac	tcttaaagtg	ataacagcaa	240
aggagaggag	agagaagagt	aagacaaatc	gaaacattct	tcaattgctt	cttggccttt	300
tggctaagct	caagctcaaa	acaggtcttc	aaggagaaaa	tacatcacia	agaaaaggat	360
gttttatttc	ttaccttgct	ctagaaaaat	ttccataaac	tctattggct	taattctgta	420
aacttgacca	atatcagagt	gcttcctacc	aaggagggtg	gctgatgagc	gtgaccatgg	480
tacatcctag	agaatgtgt	gatgaagaag	ctttcacctg	gtaaaagagt	tgaaaattat	540
tcaaggagac	attatggtct	tgg				563

<210> 622

<211> 505

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(505)

<223> n = A,T,C or G

<400> 622

tcttaagtgt	gtttaataga	taaagtaaac	tttcctagtc	aagggttaga	tttttattat	60
ctcttggttt	ccgactttct	acttttcaac	tttgaacttc	aaaaaaacat	tactttgctt	120
atcctttgta	ctttgatcag	gttggttaga	attgtagatc	aaaccattct	ttgatcattt	180
tattgtttaa	atgnttagtt	ccatttataa	tttttatagc	caactctcgg	ttatttctgt	240
cttttgagat	tgcaattcag	aagctgtatg	togaagtaat	ttatgagttg	actttttatac	300
ttaggcttct	ttaaatacta	atagtcaaga	attctagagc	atctaataaa	aaattaactt	360
tcagatcatt	gggaatctgt	cctcatttaa	atatgtgtaa	atgcatttcc	acagcaaatt	420
gcttcatgcc	ctttgnctat	aaggaaatta	ttcctttag	ctaatacatt	tttcattttg	480
cagnccaaat	cttttttgag	aaagg				505

<210> 623

<211> 489

<212> DNA

<213> Homo sapien

<400> 623

cctactatgg	gtgttaaatt	ttttactctc	tctacaaggt	tttttcttag	tgtccaaaga	60
gctgttcctc	tttgactaa	cagttaaatt	tacaagggga	tttagagggg	tctgtgggca	120
aattttaaagt	tgaactaaga	ttctatcttg	gacaaccagc	tatcaccagg	ctcggtaggt	180
ttgtcgcttc	tacctataaa	tcttcccaact	attttgctac	atagacgggt	gtgctctttt	240
agctgttctt	aggtagctcg	tctggtttcg	ggggctcttag	ctttggctct	ccttgcaaag	300
ttattttctag	ttaattcatt	atgcagaagg	tataggggtt	agtccttgct	atattatgct	360
tggttataat	ttttcatctt	tcccttgctg	tactatatct	attgcgccag	gtttcaattt	420
ctatcgctat	actttatttg	ggtaaatggt	ttggctaagg	ttgtctggta	gtaaggtgga	480
gtgggtttg						489

<210> 624

<211> 233
 <212> DNA
 <213> Homo sapien

<400> 624
 gttggggaac agctaaatag gttgttgttg atttggttaa aaaatagtag ggggatgatg 60
 ctaataatta ggctgtgggt ggttgtgttg attcaaatta tgtgtttttt ggagagtcac 120
 gtcagtggta gtaatataat tgttgggacg attagtttta gcattggagt aggttttaggt 180
 tatgtacgta gtctaggcca tatgtgttgg agattgagac tagtagggct agg 233

<210> 625
 <211> 459
 <212> DNA
 <213> Homo sapien

<400> 625
 ttcgagaaca tttttaataa ataatgtgac aaaattactt ttctgattat tggattttca 60
 gtatgcaaaa ttatggctaa aaataagggg cttcttacat gaacataatg aaaacattaa 120
 tcacatggat tgttccctta gtactgcacg ctttttctat ggaacttttt caaattatct 180
 aaatgaacaa gtttggtttt ggtgaacacc agcctttttt tttgtgggtc agttttgttt 240
 ggctttgtct tccactgggg tcagacctga tacttatcta tctatgaata aatgtacatt 300
 tttttcttca aatagcacca attataaaat caatgatatt cataaaatga caaaaaagga 360
 tcatagaaat ctactagtca gagggcatca tttgtcaatt gaaagcaagt aatgcctcta 420
 ttagagattt taaggaaatc ttgtaggttt cgacattgg 459

<210> 626
 <211> 458
 <212> DNA
 <213> Homo sapien

<400> 626
 cctgatgatt gttttaaaaca gtagaaaggg ttcagctaag aactacagtc cactctcagc 60
 cctgtcatgt actataggac aagtcttcat tcacaacaaa tggatagcaa caccaatctc 120
 gtaacactgg gaaaactgca tacaatattt agaaggaaca ctaatacagc agaatctgca 180
 cacaacggag tcaaagatct gagggccaat cctactacac tttacgactt tgagttggtc 240
 acttttctga accttagctt ctccatcagt gtaaaactga tgtaaaataa tataaagcta 300
 tatgaaagct gatgtgattt acctgtgaaa tagtatgtgc aaaaggactt tgtaaaatgt 360
 aaagcactat gctggttatt gtgatatctg agatattttt aaagttgcaa ttcaattcaa 420
 caagcattca tttagagtca tgtgcaaggc actgtgct 458

<210> 627
 <211> 393
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(393)
 <223> n = A,T,C or G

<400> 627

```

ccatnngaac gcactcagga ggtgggttgt tctggatgca gaaaccagag atctagtttc      60
tatccacaca gacgggaatg aacagctctc tgtgatgcgc tactcaatag atggtacctt      120
cctgggtgta ggatctcatg acaactttat ttacctctat gtagtctctg aaaatggaag      180
aaaatatagc agatatggaa ggtgcactgg acattccagc tacatcacac accttgactg      240
gtccccagac aacaagtata taatgtctaa ctcgaggagac tatgaaatat tgtactggga      300
cattccaaat ggctgcaaac taatcaggaa tcgatcggat tgtaaggaca tttgattgga      360
ccgacatata cctgtgggct aggacttcca gga                                     393

```

```

<210> 628
<211> 233
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(233)
<223> n = A,T,C or G

```

```

<400> 628
ctggatttat aaaatagttg aatgacaaaa gaagnntggt ttgacagtaa aaaaaagaca      60
ttatggacaa aatatgcaaa atgtgcaaaag aaaaaataaa tttgcattag aaaggtgggc      120
atttgatctc tgagccctgt gccatgtaac attgccatgt tctttcactg ttgtttgaat      180
gttgatcccc ancccttgac tctggactta aggcaagcta tgactgggctt tgg                                     233

```

```

<210> 629
<211> 450
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(450)
<223> n = A,T,C or G

```

```

<400> 629
ccnggacaat ntaggcagga gaaggaaata aagggtattc aattaggaaa agaggaagtc      60
aaattgtccc tgtttgaga tgacatgatt gtatatctag aaaaccccat tgcctcagcc      120
caaaatctcc ttaagctgat aagcaactcc agcaaagtcg caggatacaa aatcaatgga      180
cacaaatcac aaacattctt atacaccaat aacagacaaa cagaggccaa atcacgagtn      240
gaactctatt ccaattgctt tcaagaaaat taaaatacct agggatccaa cttacaaggg      300
acatgaagga cctcttcaag gagaaactac aaaccactgc tcaatgaaat aaaagaggat      360
acaaagaaat ggaagaacat tccatgctca ttggtagctt gatgggggatg gcattgaatc      420
tataaattac cttgggcagt atggacctca                                     450

```

```

<210> 630
<211> 486
<212> DNA
<213> Homo sapien

```

```

<400> 630
cctactatgg gtgttaaatt ttttactctc tctacaaggt tttttcctag tgtccaaaga      60

```

```

gctgttccctc tttggactaa cagttaaatt tacaagggga tttagagggt tctgtgggca 120
aatttaaagt tgaactaaga ttctatcttg gacaaccagc tatcaccagg ctcggtagggt 180
ttgtcgccctc tacctataaa tcttccact attttgcctac atagacgggt gtgctctttt 240
agctgttctt aggtagctcg tctggtttcg ggggtcttag ctttggctct ccttgcaaag 300
ttatttctag ttaattcatt atgcagaagg tataggggtt agtccttgct atattatgct 360
tgggtataat ttttcatctt tcccttgccg tactatatct attgcgccag gtttcaattt 420
ctatcgcccta tactttatctt gggtaaatgg tttggctaag gttgtctggt agtaagggtg 480
agtggg 486

```

```

<210> 631
<211> 211
<212> DNA
<213> Homo sapien

```

```

<400> 631
tttacataaa tattatacta gcatttacca tctcacttct aggaatacta gtatatcgct 60
cacacctcat atcctcccta ctatgcctag aaggaataat actatcactg ttcattatag 120
ctactctcat aacctcaaac acccactccc tcttagccaa tattgtgcct attgccatac 180
tagtctttgc cgctcgcat gcagcggtag g 211

```

```

<210> 632
<211> 293
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(293)
<223> n = A,T,C or G

```

```

<400> 632
cagcgcaagt aggtctacaa gacgctactt cccctatcat agaagagctt atcacctttc 60
atgatcacgc cctcatagtc atttttcctt atctgcttcc tagtcctgta tgcccttttc 120
ctaactca caacaaaact aactaatact aacatctcag acgctcagga aatagaaacc 180
gtctgaacta ngctgcccgc catcatccta gtctcctcgc cctcccac cctacgcac 240
ctttacataa cagacgaggt cnacgatccc tcccttacca tcaaatcaat tgg 293

```

```

<210> 633
<211> 263
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(263)
<223> n = A,T,C or G

```

```

<400> 633
nggtctgcag tgtccctttt tatatcatgc tagtggtgag acatacttga ctaacttggg 60
aacagttcga tatattgaca accgtcaact taagaaaatc aacagctttt ggccccagcg 120
tccaagtga cttttcatgg agtgcagaat ctcaaagga caaaatactt tgtcttttta 180

```


aatactgaaa attnaattat tagtactatg actgaaagat tcttcatggc taaaaagctc 240
 tgcacaaac tcaattcagg agg 263

<210> 634
 <211> 491
 <212> DNA
 <213> Homo sapien

<400> 634
 cctactatgg gtgttaaatt ttttactctc tctacaaggt tttttcctag tgtccaaaga 60
 gctgttcctc tttggactaa cagttaaatt tgcaagggga ttttagagggt tctgtgggca 120
 aatttaaagt tgaactaaga ttctatcttg gacaaccagc tatcaccagg ctcggtagggt 180
 ttgtcgctc tacctataaa tcttccact attttgctac atagacgggt gtgctctttt 240
 agctgttctt aggtagctcg tctggtttcg ggggtcttag ctttggctct ccttgcaaag 300
 ttatttctag ttaattcatt atgcagaagg tataggggtt agtccttgct atattatgct 360
 tggttataat ttttcatctt tcccttgagg tactatatct attgcgccag gtttcaattt 420
 ctatcgcta tactttatctt gggtaaatgg tttggctaag gttgtctggt agtaagggtg 480
 agtgggtttg g 491

<210> 635
 <211> 270
 <212> DNA
 <213> Homo sapien

<400> 635
 ccaattgatt tcatggtaag ggagggatcg ttgacctcgt ctgttatgta aaggatgcgt 60
 agggatggga gggcgatgag gactaggatg atggcgggca ggatagtcca gacggtttct 120
 atttctgag cgtctgagat gttagtatta gttagtcttg ttgtgagtgt taggaaaagg 180
 gcatacagga ctaggaagca gataaggaaa atgactatga gggcgtgatc atgaaagggtg 240
 ataagctctt ctatgatagg ggaagtagcg 270

<210> 636
 <211> 383
 <212> DNA
 <213> Homo sapien

<400> 636
 cctactatgg gtgttaaatt ttttactctc tctacaaggt tttttcctag tgtccaaaga 60
 gctgttcctc tttggactaa cagttaaatt tacaagggga ttttagagggt tctgtgggca 120
 aatttaaagt tgaactaaga ttctatcttg gacaaccagc tatcaccagg ctcggtagggt 180
 ttgtcgctc tacctataaa tcttccact attttgctac atagacgggt gtgctctttt 240
 agctgttctt aggtagctcg tctggtttcg ggggtcttag ctttggctct ccttgcaaag 300
 ttatttctag ttaattcatt atgcagaagg tataggggtt agtccttgct atattatgct 360
 tggttataat ttttcatctt tcc 383

<210> 637
 <211> 537
 <212> DNA
 <213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(537)
 <223> n = A,T,C or G

<400> 637
 ttttaatcct ggggtatata ggcagnactt taaattgcaa agtcttccgg gcctattttc 60
 ctctacattt ttgtaattaa ctctgggggc ttacttggtt tggcagtact gaaatcaaag 120
 gagctgggtt ttctttttct ccaattattt tcatatgaaa gcacctacaa ttagcctggt 180
 agtcctattc agatacatca aatatcagtg aatgctttac tattcgcaca ttttaagcatc 240
 ttgtttttac ataaaattag agtatgaaaa ccagtgttca attttttatc ttgttgagct 300
 tgtaaaatgc cagcaattta aaactaggac ttttcccccc ataagccaag gaggtagaat 360
 tactaataca aggggttaaag aaggtagatt ttgttttcaa tatttgggta atattagaaa 420
 gattcttccc acagggaaga actagcaagt gtcccaattt tttccaaacg ttggggaggg 480
 gaaaattcac tgtatcatga aaccctaagg gtttgngtgc acttctgct ttttagg 537

<210> 638
 <211> 445
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ..(445)
 <223> n = A,T,C or G

<400> 638
 ccagcagaac acagnagtga tttgggtcccg tttgttcccc agtgggggtat ctatccttgt 60
 gcagggcaca agcctacatg gtgggtcttg tcatatcatt agaaaataga cagaaatggg 120
 ctgcacacca gaatgaatga attgaattga aaggaggagg tgatggtgga aaaaaaaca 180
 agtcaattga tttagactgg tagaaccaga accactgtgt agtacatcca aacggttaaa 240
 attccttggg agatgttaca taatcctatc atgggtgttt tttatggaaa tctattttaa 300
 aaattttatg taatactgca cagtctgttt gcatgatgcc ttgtacgtag tagcaactca 360
 gtaaataactt tttgaatgaa ctagtatagt attttaatta gctagtcttc gtgtactggg 420
 acaaaagaac agtgtcatct tacag 445

<210> 639
 <211> 584
 <212> DNA
 <213> Homo sapien

<400> 639
 gcttgagtat tctatagtgt cacctaaata gcttggcgta atcatggtca tagctgtttc 60
 ctgtgtgaaa ttgttatccg ctccacaattc cacacaacat acgagccgga agcataaagt 120
 gtaaagcctg ggggtgctaa tgagttagct aactcacatt aattgctgtg cgctcactgc 180
 ccgctttcca gtcgggaaac ctgtcgtgcc agctgcatta atgaatcggc caacgcgcgg 240
 ggagaggcgg tttgcgtatt gggcgctctt ccgcttcttc gctcactgac tcgtgctgct 300
 cggctgttcg gctgcggcga gcggtatcag ctactcaaa ggcggtaata cggttatcca 360
 cagaatcagg ggataacgca ggaaagaaca tgtgagcaaa aggccagcaa aaggccagga 420
 accgtaaaaa ggccgcgttg ctggcggttt tccataggct ccgccccct gacgactac 480
 acaaaaatcg acgctcaagt caagaggtgg cgaaacccga caggactata aagataccag 540
 gcgtttcccc ctggaagctc cctcgtgcgc tctcctgttc cgac 584

<210> 640
 <211> 404
 <212> DNA
 <213> Homo sapien

<400> 640
 ccataggaac gcactcaggc aggtgggtttg ttctggatgc agaaaccaga gatctagttt 60
 ctatccacac agacgggaat gaacagctct ctgtgatgcg ctactcaata gatggtacct 120
 tcttggtgtg aggatctcat gacaacttta tttacctcta tgtagtctct gaaaatggaa 180
 gaaaatatag gagatatgga aggtgcactg gacattccag ctacatcaca caccttgact 240
 ggtccccaga caacaagtat ataatgtcta actcgggaga ctatgaaata ttgtactggg 300
 acattccaaa tggctgcaaa ctaatcagga atcgatcgga ttgtaaggac attgattgga 360
 cgacatatac ctgtgtgcta ggatttcaag tatttgggtg ctgg 404

<210> 641
 <211> 138
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(138)
 <223> n = A,T,C or G

<400> 641
 ctgtgacagg aacattacct gaagtgcagg gtgggtacct gcacaaagtc ccatttccaa 60
 aaatttctgt gtaattcacc agaaattttg gatggaataa ttagaaaaaa aaaaagaggt 120
 taaaacntgt aactcaaa 138

<210> 642
 <211> 381
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(381)
 <223> n = A,T,C or G

<400> 642
 ctgtaggtgg aatttttacc cagaaaagat aggccttaga agcctcattt cttttctcca 60
 tggaaaagga cagccctctg ctgcagcgtt caacttgtgt gtttactgac agagtgaact 120
 acagaaatag cttttcttcc taaaggggat tggtctacat tttgaagtta ttttttaata 180
 aaattgaatt atgttgtgta ttgtgcttcc taataggaaa tgcattattg gactgttttt 240
 gtaacatcct gtttattgca aatagctagt atcgttcaaa aactgtataa aatacttttg 300
 tacatattag caatgtctaa tttgtatata cttcagttaa atttccctaa aacttgaaag 360
 gggaccttgt anaaattaaa a 381

<210> 643
 <211> 403

<212> DNA

<213> Homo sapien

<400> 643

ccttcctaaa	aaatagtgg	gagctggagg	ctacttccgc	cttcttagcg	tctggtcaga	60
gagctgatgg	atatcccatt	tggtcccgac	aagatgacat	agatttgcaa	aaagatgatg	120
aggataccag	agaggcattg	gtcaaaaaat	ttggtgctca	gaatgtagct	cggaggattg	180
aatttcgaaa	gaaataattg	gcaagataat	gagaaaagaa	aaaagtcacg	gtagggtgagg	240
tggttaaaaa	aaattgtgac	caatgaactt	tagagagttc	ttgcattgga	actggcactt	300
attttctgac	catcgctgct	gttgctctgt	gagtcctaga	tttttgtagc	caagcagagt	360
tgtagagggg	gataaaaaa	aaagaaattg	gatgtattta	cag		403

<210> 644

<211> 688

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(688)

<223> n = A,T,C or G

<400> 644

cctatttatt	tgttttggcc	ctggatcttt	cctaatacaca	attatatattc	tttattttttg	60
cctttgagca	gtttcattta	tctttgtggg	caggggaagat	taaatatgaa	attcagtcga	120
gtcattttgc	tactggtttag	cttttagttg	aggcaagtaa	aaatttttga	ttaaaattag	180
tttcttaaaa	ttatgccctt	gctttaccaa	ataatcaa	at	ataagggtat	240
gtaactttgc	attttgaaga	acaaaccaat	aatttttcat	gagccctact	cgatcttctt	300
taaagaagac	cttcctaaga	gacaattagg	gatgagtttg	attaatggga	aatagctcta	360
ggttagatta	ttttaaattc	catacaccaa	gtgatttaac	cacagtggca	gtggcagctt	420
ctgaaccgtc	aagtatgaac	atcacttaaa	aattaaaaga	tgcttaataa	taaactctta	480
attttcatta	agccaatctg	taattcagaa	gaaaagcata	tgtctgccat	gggactattg	540
cagtgcgtct	ccatcagtg	taacacagga	gagatatgtt	attttatgtg	tatgtcttag	600
tttgggatat	gtggtagtaa	gaacatgtca	agagtgtctt	tcttcaaacc	tgncagctca	660
actgangaaa	gacaggtact	tccattgc				688

<210> 645

<211> 484

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(484)

<223> n = A,T,C or G

<400> 645

ccaaatgtgt	ctccagccca	cacttccagg	tggcagagcg	agctctctat	tactggaata	60
atgaatacat	catgagttta	atcagtgaac	acgcagcgaa	gattctgccc	atcatgtttc	120
cttccttgta	ccgcaactca	aagacccatt	ggaacaagac	aatacatggc	ttgatataca	180
acgccttgaa	gctcttcatg	gagatgaacc	aaaagctatt	tgatgactgt	acacaacagt	240

```

tcaaagcaga gaaactaaaa gagaagctaa aaatgaaaga acgggaagaa gcatgggtta 300
aaatagaaaa tctagccaaa gccaatcccc aggtactaaa aaagagaata acatgaaaac 360
gcccaggggtt acttgaatgt ttttataaga taggaatata tgtcttcacc atgggggggg 420
gtctcggatt tcactaacgt tgtatatgaa aatgggtgcn ataaaaagta cttttaaaact 480
ttgt 484

```

```

<210> 646
<211> 447
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(447)
<223> n = A,T,C or G

```

```

<400> 646
gggtcgcggtt gaacaacttg gttcaagatg gtgggggcat ttttagagcg gcaataattg 60
aaaaaaaaagg cgaactctgc cttggagagg tagatgataa gaaataaaaa ggtgtttata 120
actattttgt attataaagt gggccttaga gataggaaga agaagatgagg attccttttg 180
gatcaatcag aaaggaaaaca cgaaagaaaa gtcaggaagg tagagagaga aaaagggagg 240
gaaggagaaa gaatgggaat aaaataagga ggtaagagat actatttttg ctgagcaacc 300
agtgtgtttc aggatgatac aaagaaaaat atagaataga aataagtgca ggcttggaat 360
cagctacaaa tcctaaagat ggggtgtgtg tggatgtgtg tgtgtgtgtg tgnacaccat 420
tgtgtgtttg taaaatgtgt atgtccc 447

```

```

<210> 647
<211> 388
<212> DNA
<213> Homo sapien

```

```

<400> 647
gaaggtgata taaaatgact gtcatcattt ggagtgtgca gtacagttac ttcatgttcc 60
tcaggttttag aacaatttcc cctgcaagtt ctcacacaga taggcagaaa tcataactaa 120
ttttggttaa tcaactatggc agccgttgaa gaatttaaga gaacctgcca gtaagatttg 180
gaataagatt ctatattatt gcatccacag aaaagaatgt actgatatac tataaactct 240
aggagaaaac ttaattgaaa tagtgttatt aagtgttgaa agtaccataa aaatataagg 300
gaaaataagc tttcctagaa tttttcagtg ttctagtttt taaacagtga tgttttttat 360
taacctattt catccattca aagacagg 388

```

```

<210> 648
<211> 632
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(632)
<223> n = A,T,C or G

```

```

<400> 648

```

```

cctggctggg cntttgacct gcgnttttaa atnactcaca gaggggtggga caggaggaag      60
agtgaaggaa aaggtcaaac ctgtttttaag ggcaacctgc ctttggtctg aattgggtctt    120
aagaacatta ccagctccag gtttaaattg ttcagtttca tgcagttcca atagctgac      180
attgttgaga tgaggacaaa atcctttgtc ctcactagtt tgctttacat ttttgaaaag      240
tattattttt gtccaagtgc ttatcaacta aaccttgtgt taggtaagaa tggaatttat      300
taagtgaatc agtgtgaccc ttcttgtcat aagattatct taaagctgaa gccaaaatat      360
gcttcaaaag aagaggactt tattgttcat tgtagtcat acattcaaag catctgaact      420
gtagtttcta tagcaagcca attacatcca taagtggaga aggaaataga tagatgtcaa      480
agnatgattg gtggagggag caaggttgaa gataatctgg ggttgaaatt ttctagttnt      540
cattccgtac atttttagtt agacatcaga tttgaaatat taatgttacc tcctcaatgg      600
ggtggtatca gacctgcccg ggcggncgnn tc                                     632

```

```

<210> 649
<211> 300
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(300)
<223> n = A,T,C or G

```

```

<400> 649
nggtgaagat agaanaaata taagcgaaat tggataaaat agcactgaaa aaatgaggaa      60
attattggta accaatttat tttaaaagcc catcaattta atttctgggtg gtgcagaagt    120
tagaaggtaa agcttgagaa gatgaggggtg tttacgtaga ccagaaccaa tttagaagaa      180
tacttgaagc tagaagggga agttgggttaa aaatcacatc aaaaagctac taaaaggact      240
ggtgtaattt aaaaaaaact aaggcagaag gctttggaag agttagaaga atttggaagg      300

```

```

<210> 650
<211> 498
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(498)
<223> n = A,T,C or G

```

```

<400> 650
ngtntcgnat aacagaaggg tacaangccc ttctggcttt aagcagtcac aggaatgtga      60
cagacattcc tcttagggag cgctcctcc taggggtttcc tcactctgtc cactctgagt    120
ggatgtaatg ctattttaat cctgctgtgg cccccaatac tagtacttgt ccataccttc      180
ttgcattttt agcgtctgct ctgtgggggtt gttaggccct ggcactccca ggaactagtg      240
ctaaagctgc atctntctct cccctctagg gatcgataaa gtttcaactgc agaaagtctc      300
cactgcggta tgtgacatc tgccctgaac cttcacccta cagcattaca ggctttaatc      360
agattctgct ggaaagacac aggctgatcc acgtgacctc ttctgccttc actgggctgg      420
ggtgatecct ggtgcctttg tttccacaag gccttttctc gccccctgcc ttgccaaaga      480
catttaatca gcacacag

```

```

<210> 651

```

<211> 654
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(654)
 <223> n = A,T,C or G

<400> 651
 ctgaggggtcc ccaggttttct aaagctctca ggacgagaaa gtaggtccca agataaggag 60
 cctaaagggc ttttttcttt ctgtgtattc cttcttgcc tccaacatgg gtacagtcac 120
 aagagcatgt aacagagaag aaggactana cctaccattt tctggataaa gaattggaaa 180
 gaggatccac aggtaaccaa aaagtaccag ggaaatggca gagaaggaaa acctcaggag 240
 accaacctca taagtggat ttattagngc ctgggctcaa atccaaattg tacatgaata 300
 tgtctgggtcc tagatagggg accgaagact ttgaaagtga attttggtat atcattgccc 360
 agattccaga ctggnatttg tgtgacacaa catacaggat atatctgaat agtgctcaga 420
 agagtttgaa aatgcaaagt atattaaaat aaagatgaaa aagagaaaagc tggtcagaac 480
 ttgtggacat aacccttctg gatctgtngc ctgattaaaa aatagttgat attctcgaat 540
 gaattaaaac aagattttaga gactgagcat ggtagctnat tcttgtaatc caacnctttg 600
 ggaggggcaag gcaanagaat tgcttgccgc caggagtttt gagaccagct tggg 654

<210> 652
 <211> 293
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(293)
 <223> n = A,T,C or G

<400> 652
 ngctctgttg actgagggtga ctaaggatac attttgagga agtagctcca agaacatttc 60
 cattttcact gtgccttcac atacatctaa tggaaatgaa cagcaccctt catccatcca 120
 cggaagcgat taagaaaagg gtgggatgga aaaattaacc caacaatatt agatcaatac 180
 gtagtattta agngtccata atgtgccagg ctgaagatgc acgggaaaac cacactagcc 240
 ggtctgtcaa gggcttgaga ataccataaa caagaaaaca gacgaaccaa ttt 293

<210> 653
 <211> 294
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(294)
 <223> n = A,T,C or G

<400> 653
 ngtcaccac tgcagcccta catacagttg aaaaaaaatt ccattctgtt aacatttggt 60

ttataagttt	tcacgcaata	cacaaaaaac	ccctctgcac	ttcttgtaaa	gaacaaaaaa	120
gatacacaa	agttaagcg	aaagatcaca	ggcaatagca	ttcaaaccatg	gatgtgggta	180
gagaaaggag	tacctggcat	gagtacctgc	ttagtttgac	tgaatccttg	atttttaatt	240
tggtttttca	tgggccgctc	acaacaccaa	cgctgtgtga	ggtatggtag	tcag	294

<210> 654

<211> 250

<212> DNA

<213> Homo sapien

<400> 654

ctgtccttga	acaagtatca	atgtgtttat	gaaaggaaga	tctaaatcag	acaggagttg	60
gtctacatag	tagtaatcca	ttgttggaat	ggaacccttg	ctatagtagt	gacaaagtga	120
aaggaaattt	aggaggcata	ggccatttca	ggcagcataa	gtaatctcct	gtcctttggc	180
agaagctcct	ttagattggg	atagattcca	aataaagaat	ctagaaatag	gagaagattt	240
aattatgagg						250

<210> 655

<211> 494

<212> DNA

<213> Homo sapien

<400> 655

ccattataat	tttataaac	cattaccctt	taaattctac	cgattataag	cagcgtaaaa	60
gtaactatat	aaagcaaaca	tcgcaaagga	actctgcagg	agctcttaat	tcctttatgt	120
agctatcata	aaattcactt	tcctgaagac	atttactctc	attcacttcc	aaactccaaa	180
cctttttctg	gtagcaccac	ttttgttttt	aatagaaaga	tgagttcata	tctgtacatc	240
tctccaaagc	tctaaggaat	gagaaaagga	tcctagtata	ttgaaattac	tgatgtttaa	300
tacctctgcc	ttttcactaa	aagccattta	atatttttaa	agtcaaaact	tgacatacag	360
gtatttataa	ggaatctcca	tgactctgaa	ggaatgaaat	tgatgtagg	agctttggct	420
atgtaaagac	atagtagagg	acaattactt	aaagaagagt	tttcttttga	ggatttgtag	480
atttgactaa	gcag					494

<210> 656

<211> 477

<212> DNA

<213> Homo sapien

<400> 656

cgcgttactg	tacatattgc	tagcaggaga	caactggaaa	tactaaacaa	atactggaat	60
tcacattaca	gacagacgaa	accaacatgg	atgccacaca	taacttcctt	tgtagtttca	120
cagagggcct	atttgtgggt	gtcagggtgg	ggtcatacat	tgtttgcaga	aatggcctga	180
tcatagtctt	atgaaacaat	gaattcggaa	tgaaatctta	ccatgacacc	tctctgtagg	240
aaagaaatgt	tgcttcacgt	gtgctaagtt	gagataataa	tatttcacat	atttatatac	300
agagaatcac	tctcaaattt	aaccacaagat	aagcaatagg	atttgggggt	gacttgtaca	360
cattttcta	aacacttttc	ttttttctag	aggtcactct	caaacactga	tatatcacta	420
tagtttgagt	gtagggattc	agtaatcaaa	ggttggttatt	gcaaaagagc	caggcag	477

<210> 657

<211> 576

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(576)

<223> n = A,T,C or G

<400> 657

cctctacctg tanatcacta tttttctaaa gacaatttgg tgttttgaag ataaatgtca	60
ttagtctatg ataatagcat cataggacaa ttagccattt tagacttgac catattttct	120
cttttttagca tatagccatc ttgatattta ggtgggagac tactccaatg gagcaacagt	180
ttcattttac atgattggat ttagaaattt acaaatttta aactcataag aattctaaat	240
aatttgaaaa tggaaacatt tgaccacag tctagcagca taaatacatt tataaaatac	300
ttcattgttg atcttaggtc attgatttaa aacagaattt ggtgactatg ggcaggtgga	360
gggggccagt gaggaaggta taaaagagaa atctttatga attgtgttca gattgatttt	420
gtataaacat aatatattca tggttgtatc tcttatttat aatacccaac taacatgaag	480
gtggtccaag ggaaggatca atattttaaa taacatattt gcttaaaata tcatacagtg	540
gctgcttcat aaaaaatctt ataaactttt attacc	576

<210> 658

<211> 344

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(344)

<223> n = A,T,C or G

<400> 658

cctgaaaaga aagntgctct tatggactct tgcattgtta gactatgtct tcacatcatg	60
gtgcaaatca catgtaccca atgactccgg ctttgacaca acaccttacc atcatcatgc	120
catgatggct tccacaaagc attaaacctg gtaaccagag attactgggt gctccagcgt	180
tgtagatgt tcatgaaatg tgaccacctc tcaatcacct ttgagggcta aagagtagca	240
catcaaaagg actccaaat cccataccca actcttaaga gatttgcct ggtacttcag	300
aaagaatttt catgagtgtt cttaattggc tggaaaagca ccag	344

<210> 659

<211> 230

<212> DNA

<213> Homo sapien

<400> 659

ctgctttccc tgctaaacag ttccagagca aaagcagcaa aaagaaaata tgggagggat	60
atgggcaacg tatactcgaa cgtacgcaga gaagagagta cggttagctc taatatttct	120
cattgaactt ggtggtatgt gccttccctg catataaggc catagtgtct ttttgggagc	180
gctagaatat ccatccactt gacagtgacc acaaaatagg ctgtttccag	230

<210> 660

<211> 80

<212> DNA

<213> Homo sapien

<400> 660

```
ctggtccttg ttaaactcga tcaccacttt ggagagatcg actggagggt cctgggtggt      60
ctgagggggcc tgggggacag                                         80
```

<210> 661

<211> 535

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(535)

<223> n = A,T,C or G

<400> 661

```
ctgaaccata tctgattaac tctttggtct ctgttattgg aacaaaaccg acgctatgcc      60
tgcagccgcc agactgcaac caaaaacaca gtttgggggtc agaagacatt aaaaatcaca    120
ataaaatagg atgaatgttc taagtcacgc aactgaatca aggcaccttt ttttttcaaa    180
agcaaaaagt tgtttaacaa tattccagaa tagtagatac ttcaaaaacc agattacagt    240
atatatcatt ttgctgcaca ttttagtcta ttttctgtat acatagtcac acattcttta    300
ccctctccca acttatacat gctttatccc cccagtcatg tgctatgtag gtataaaaaa    360
ataaagttgt atctaaacaa gtgattttaa aaaaaaaact aacgaatgcc ncnatnataa    420
cnctgaactt gtttccctnt tgaaggacat tggaaatgtt accgaggttn ntttacctng    480
gccgcaaccn cnctangggc naattccagc ncactggggg ccgttactag gggat         535
```

<210> 662

<211> 257

<212> DNA

<213> Homo sapien

<400> 662

```
cctgactaaa gcacatatca cactccctac acttccatgt tttctctccc atgtggaccc      60
tctgatgcat atcaagattc aagcgctgtg tgtagccttt cccacagtcc tcacatttgt    120
atggcttttc tacactgtga actttttctt gcactttaga gaatgaattc tgtacaatgt    180
tcttcccatg ctgctcacat ttgagaggtg tttctctgct gtggcgcttc tgatgggtca    240
gacgagttga ggaccag                                         257
```

<210> 663

<211> 516

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(516)

<223> n = A,T,C or G

<400> 663

```
ccaattatag gtatttttatt ttttaaagat tagagngttc ttgaagctct ttctattttct      60
```

```

ttgtcaatga actaaacatt ggcaaatatg tagggtttcc cacataagaa cattattaac 120
atcaaaatag aaagctgggtg gtagaaataa tgattgggaa cacagagtct ctactcagcg 180
ttctacttct gccataccat aactttgtga tctcacgaaa tatctctcca tgttctcatc 240
cctatgtata gttctgtcat ttttcaataa gagctttttg ctttaattatg aagtactagt 300
tactataacc attattttga gcttcatgta aatcaagaac acatggactc cacttgcaaa 360
acattgaaaa tgtagttagg gattgggggc aaaaagcaac atttttaa atgtgaaagac 420
aatgagtaag caacaaagtg tccaattttt taggcgaaag ttgcatatgt caggaaaagg 480
caggattaag taatagagaa tttgaatgat aactgg 516

```

<210> 664

<211> 212

<212> DNA

<213> Homo sapien

<400> 664

```

gtccgaggag gttagttgtg gcaataaaaa tgattaagga tactagtata agagatcagg 60
ttcgtccttt agtgttgtgt atggctatca tttgttttga ggtagtttg attagtcatt 120
gttgggtggg aattagtcgg ttgttgatga gatatttgga ggtggggatc aatagagggg 180
gaaatagaat gatcagtact gcggcgggta gg 212

```

<210> 665

<211> 408

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(408)

<223> n = A,T,C or G

<400> 665

```

atccaggggt ncccggtngc tgcngggaaa cctccagcct tgttcttcaa accactcagc 60
tcatgtgttt tgcgctgact agtactgaat aatacaacca ctcttattta atgtagtat 120
tatttatttg acaactcagt gtctaacagc ttgatatgca ggtccttgca tcttacattt 180
ctttaggaag ttacccattt gtaactttaa aaacaggaaa aatatcagtt ggcaaatgca 240
atcttttttt tttttaagct aaaggggggn naacngnaan naaaatnttt ntgangtngg 300
gtctataagc acccttgang ggatntgtta aaagngncat naanggggga ttctcntttt 360
gcaaaaaaat ntaannatca atttatanan ctttattttt nactttnt 408

```

<210> 666

<211> 635

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(635)

<223> n = A,T,C or G

<400> 666

```

ctgaagnaca agggctcaggc aaaaataaga tcacaatcac caatgaccag aatcgctga 60

```

```

cacctgaaga aatcgaaagg atgggttaatg atgctgagaa gtttgctgag gaagacaaaa 120
agctcaagga gcgcattgat actagaaatg agttggaaaag ctatgcctat tctctaaaga 180
atcagattgg agataaagaa aagctgggag gtaaacccttc ctctgaagat aaggagacca 240
tggaaaaagc tgtagaagaa aagattgaat ggctggaaaag ccaccaagat gctgacattg 300
aagacttcaa agctaagaag aaggaactgg aagaaaattgt tcaaccaatt atcagcaaac 360
tctatggaag tgcaggccct cccccaactg gtgaagagga tacagcagaa aaagatgagt 420
tgtagacact gatctgctag tgctgtaata ttgtaaatac tggactcagg aacttttgtt 480
aggaaaaaat tgaaagaact tanctctcga atgtcattgg aatcttcacc tcacagtggg 540
gttgaaactg ctatagccta agcnggctgt ttactgnttt ncattagcag gtgctcacca 600
tgtctttggg gtgggngggg ggagaaagaa agaana 635

```

<210> 667

<211> 388

<212> DNA

<213> Homo sapien

<400> 667

```

gaaggtgata taaaatgact gtcattcattt ggagtgtgca gtacagttac ttcattgttcc 60
tcagggttag aacaatttcc cctgtaagtt ctcacacaga taggcagaaa tcataactaa 120
ttttggttaa tcaactatggc agcctgtgaa gaattttaaga gaacctgcca gtaagatttg 180
gaataagatt ctatattatt gcatccacag aaaagaatgt actgatatac tataaactct 240
aggagaaaac ttaattgaaa tagtgattatt aagtgttgaa agtaccataa aaatataagg 300
gaaaataagc tttcctagaa tttttcagtg ttctagtttt taaacagtga tgttttttat 360
taacctatct catccattca aagacagg 388

```

<210> 668

<211> 498

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (498)

<223> n = A,T,C or G

<400> 668

```

tgatcttaac aaaattcgta gcagtggaaac cttgaaatgc atgtggctag atttatgcta 60
aaatgattct cagtttagcat tttagtaaca cttcaaaggc ttttttttgt ttgttttcta 120
gacttaataa aagcttagga ttaattagaa gaagcaatct agttaaattt cccatttgta 180
ttttattttc ttgaatactt ttttcatagt tattcgttta aaaagattta aaaatcattg 240
cactttggtc agaaaaataa taaatatatc ttatgaatgt ttgattccct tccttgctat 300
ttttattcag tagatttttg tttggcatca tgttgaagca ccgaaagata aatgattttt 360
aaaaggctat agagtccaaa ggaatgttct tttacaccaa ttcttccttt aaaaatntct 420
gaggaatttg ttttcgcctt actttttttt cttctgtcac aatgctaagn ggtatccgag 480
gtntttaata tgagattt 498

```

<210> 669

<211> 622

<212> DNA

<213> Homo sapien

<400> 669

ccttagccaa	agaatgcagt	ggagccttcc	cccttcaact	gcattgtgaa	tgaataccaa	60
ttaacagcat	aaaaattaat	agtcccatat	cagatctgga	aggggtttct	ggggctgtct	120
gatgtcccta	tctgtttgta	gtgaacacaa	tagcagaaaa	ttctttctgg	gtccatctgc	180
tataaagtct	tggtaaaaca	gcattactat	gaagaggatg	aactcaccta	ccttcagatg	240
gaggaaaagt	gaaaaggact	taggcctttag	tcttccatga	cttttcttaa	gcactaccta	300
cctgtaataa	gctgagtgc	aaaggatgcc	gaagaaaatc	tgacccaga	agctgttaga	360
aagcactgca	gagaacaggg	tatgaagaaa	ataaagagtt	cttaataaac	ccttaagatt	420
ctttgttcaa	ggtaaccttg	ccaaaagggc	agagtaggtg	gcaaagagtt	gcttttaatc	480
tagctctaca	ctgcatttga	aaataaaaatt	tgcccatttt	gaatatattg	tttataatta	540
aatgtgcttt	ttacactgca	ggtcaatata	aaaactgggt	agtaaatttc	cagcgagcat	600
ttatgttcat	ttgctcacag	ca				622

<210> 670

<211> 477

<212> DNA

<213> Homo sapien

<400> 670

ttgggccctc	tagatgcatg	ctcgagcggc	cgccagtgtg	atggatatct	gcagaattcg	60
cccttgccgc	ccgggcaggt	gatggatgag	gagcaaaaac	tttatacggg	tgatgaagat	120
gatatctaca	aggctaataa	cattgcctat	gaagatgtgg	tggggggaga	agactggaac	180
ccagtagagg	agaaaaataga	gagtcaaacc	caggaagagg	tgagagacag	caaagagaat	240
atagaaaaaa	atgaacaaat	caacgatgag	atgaaacgct	cagggcagct	tggcatccag	300
gaagaagatc	ttcggaaaaga	gagtaaagac	caactctcag	atgatgtctc	caaagtaatt	360
gcctatttga	aaagggttagt	aaatgctgca	ggaagtggga	ggttacagaa	tgggcaaaat	420
ggggaaaggg	ccaccaggct	ttttgagaaa	cctcttgatt	ctcagtctat	ttatcag	477

<210> 671

<211> 127

<212> DNA

<213> Homo sapien

<400> 671

gtgtgtgtgt	ctacttgggc	gtgtttaacg	tgtgcgtttg	tgtctgcgtg	tgcatgtgtc	60
tgtgtgtgcg	cgtgtatttc	agtttgggtt	gccgatccc	atatgattgc	gtgcctgtgt	120
acctgag						127

<210> 672

<211> 400

<212> DNA

<213> Homo sapien

<400> 672

gggtctgcac	agctatgta	acagcatcct	tataccagga	gtaggaggaa	agacacgact	60
ggaaaagcaa	ttcaagctgg	tcacacagtg	taatgcaaaa	tatgtggaat	gtttcagtgc	120
tcagaaagag	tgtaacaaag	aaaagaacag	aaactcttca	gttgtgccat	ctgagcgtgc	180
tcgagtgggt	cttgccacct	tgcttggat	gaaaggaaca	gattacatta	atgcttctta	240
tatcatgggc	tattatagga	gcaatgaatt	tattataact	cagcatcctc	tgccacatac	300
tacgaaagat	ttctggcgaa	tgatttggga	tcataacgca	cagatcattg	tcatgtctgc	360
agacaaccag	agcttggcag	aagatgagtt	tgtgtactgg			400

<210> 673
 <211> 600
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(600)
 <223> n = A,T,C or G

<400> 673
 ctggcgttgc tcattagtga atgtatgaca gcaggatgtg aggggatgcc caggagtcag 60
 tgtagcatt gtcactctgag atcactgcta ttaatatcat ccattaattt attagtgagc 120
 ttcactatat gcagactggg agataaggag aaaatctgtc acattctctc tagctaataca 180
 gatcagctac caattaatga gattctgaat gaaatatcaa tatgtgtttt tctaatttgg 240
 acctaggaca gagctgttgc ttgtcataga gaaaaacaat aatgcttaaa catagcacat 300
 tataattaaa gcagggtttct cacatacttt tcattttatc ctttggataa ttttgtgagg 360
 aacgcaggac accaacttcc ctttcataga tacaatcccc atgctattga tgaaagtgtt 420
 tttgaatgaa gccatacaac aaataactga tcaaagtggc attacaccaa aatttcttag 480
 taggactcct gcatagaatg tttagataga cgtgaaaagt ttgttcanga ggaccagcaa 540
 gagagaaact ggggttctttg ggaggggtttc ggtgctacat ttataccctn catcagagtn 600

<210> 674
 <211> 140
 <212> DNA
 <213> Homo sapien

<400> 674
 ggtgggttgg gttaaagtgt gaggcaggag tccgaggagg ttagttgttg caataaaaat 60
 gattaaggat actagtataa gagatcagggt tcgtccttta gtgttgtgta tggctatcat 120
 ttgttttgag gttagtttga 140

<210> 675
 <211> 245
 <212> DNA
 <213> Homo sapien

<400> 675
 gttgggttgg ttggtgtaaat gaggtaggca ggagtcaggag gaggttagtt gtggcaataa 60
 aaatgattaa ggatactagt ataagagatc aggttcgtcc tttagtgttg tgtatggcta 120
 tcattttgtt tgagggttagt ttgattagtc attgttgggt ggtaattagt cggttgttga 180
 tgagatattt ggaggtgggg atcaatagag ggggaaatag aatgatcagt actgcggcgg 240
 gtagg 245

<210> 676
 <211> 621
 <212> DNA
 <213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(621)
 <223> n = A,T,C or G

<400> 676

ctgtccccag	ggnaaatagt	ngaattcaac	taagatctgt	taataagatg	tcagaataac	60
taataatttt	attaggaaaa	aatcatgttt	taaatttcaa	aatgacactt	atttgtcaag	120
taatatgatc	ttggaaaatt	ttaaagaaaa	ataatcctac	ttataaaacta	ctttttttata	180
attgttttca	gaaaaaaagt	ttacagtctt	aaggaaaaata	ttcaggtcta	tcatatgggt	240
tgacagattt	tttaaaagtt	atTTTTggta	aggtcttctt	ttagaaaaaa	attaatctca	300
agggtttttt	gtaccactat	aatctcta	acttactcag	aattactgtg	tatttactta	360
atTTcttatt	atgtgcctta	ttatgtgctt	aagatacaat	agggttagagt	ttaatctaaa	420
tatcttgaaa	gctatatatt	gtgcttggtg	agcattttgt	tttttctttc	tctgttttgg	480
taaggattta	aaattttttt	cattgcaatt	ttaagtgggt	ttcaataagt	aatagttttt	540
atcaaatttt	tgggtgcttg	tgacagagac	gcgtggggaa	gggtgaatgg	ttttgggaat	600
aattcagtg	acacctgggg	g				621

<210> 677
 <211> 210
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(210)
 <223> n = A,T,C or G

<400> 677

tttacataa	atattatcag	catttaccat	ctcaattcta	ggaatactag	tatategctc	60
acacctcata	tcctccctac	tatgcctaga	aggaataata	ctatcactgt	tcattatagc	120
tactctcata	accctcaaca	cccactccct	cttagccaat	attgtgcta	ttgccatact	180
agtctttgcc	gcctgcgaag	cagcggtagg				210

<210> 678
 <211> 383
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(383)
 <223> n = A,T,C or G

<400> 678

gtaggagtca	ggtagttagg	gttaacgagg	gtggtaagga	tggggggaat	tagggaagtc	60
agggttaggg	tggttatagt	agtgtncatg	gttattagga	aaatgagtag	atatttgann	120
aactgattaa	tgtttgggnn	tgagttnta	tatcacagcc	anaattntat	gatgnaccat	180
gtancgaaca	atgctacagg	gatgaatatt	atggagaagt	antctanttt	gaagcttagg	240
gagagctggg	ttgtttgggt	tgnggctcan	tgtcagttcc	anataataac	ttcttgggtc	300
aggcacatga	atattgttgt	ggggaanaga	ctgataataa	agggtggatgc	gacaatggat	360
tttacataat	gggggtatna	gtt				383

<210> 679
 <211> 371
 <212> DNA
 <213> Homo sapien

<400> 679
 aaaatgaaaa tattgacaag agtttcagat agaaaatgaa aaacaagcta agacaagtat 60
 tggagaagta tagaagatag aaaaatataa agccaaaaat tggataaaat agcactgaaa 120
 aaatgaggaa attattggta accaatttat tttaaaagcc catcaattta atttctggtg 180
 gtgcagaagt tagaaggtaa agcttgagaa gatgaggggtg tttacgtaga ccagaaccaa 240
 tttagaagaa tacttgaaagc tagaagggga agttgggttaa aaatcacatc aaaaagctac 300
 taaaaggact ggtgtaattt aaaaaaaact aaggcagaag gcttttggaa gagttagaag 360
 aatttggaag g 371

<210> 680
 <211> 176
 <212> DNA
 <213> Homo sapien

<400> 680
 cctaggattg tgggggcaat gaatgaagcg aacagatttt cgttcatttt ggttctcagg 60
 gtttgttata attttttatt tttatgggct ttggtgaggg aggtaagtgg tagtttgtgt 120
 ttaatatattt tagttgggtg atgaggaata gtgtaaggag tatgggggta attatg 176

<210> 681
 <211> 152
 <212> DNA
 <213> Homo sapien

<400> 681
 ctggagatgg atatgagact agtcaagatg tgaatgctaa ttggagagaa atataatttt 60
 aggaagatgc acattgatgt ggggttttga tgtgtctgat tttgactact caagctctgt 120
 ttacagaaga aaattgaatg gcgaggggtg gg 152

<210> 682
 <211> 141
 <212> DNA
 <213> Homo sapien

<400> 682
 ccagtgcttg cttgccgtgg tttagtattt ggggtgtaga aataaaaaact caggtctatt 60
 tcttaccagt cagtaacaat ttttagagaa tgtacttggg atataatata tggacttcag 120
 gaactttgtt ggggtggggg g 141

<210> 683
 <211> 308
 <212> DNA
 <213> Homo sapien

<400> 683

ccagcaatgg	tacagagtga	gggtgttctg	ctaagactt	cagagaagta	tttaagaaaa	60
acatagaaaa	acgtgtgcgg	agtttgccag	aaatagatgg	cttgagcaaa	gagacagtgt	120
tgagctcatg	gatagccaaa	tatgatgcc	tttacagagg	tgaagaggac	ttgtgcaaac	180
agccaaatag	aatggcccta	agtgcagtgt	ctgaacttat	tctgagcaag	gaacaactct	240
atgaaatggt	tcagcagatt	ctgggtatca	aaaaactaga	acaccagctc	ctttataatg	300
catgtcag						308

<210> 684

<211> 277

<212> DNA

<213> Homo sapien

<400> 684

tggtattagg	attaggatgt	gtgaagtata	gtacggatga	gaaggttggg	gaacagctaa	60
ataggttggt	gttgatttgg	ttaaaaata	gtagggggat	gatgctaata	attaggctgt	120
gggtggttgt	gttgattcaa	attatgtgtt	ttttggagag	tcatgtcagt	ggtagtaata	180
taattgttgg	gacgattagt	tttagcattg	gagtaggttt	aggttatgta	cgtagtctag	240
gccatagtgt	ttggagattg	agactagtag	ggctagg			277

<210> 685

<211> 457

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(457)

<223> n = A,T,C or G

<400> 685

ctgtggcgtn	ccctacttct	cccaaacctc	gcaactccct	cccaggacag	tcagtgccaa	60
agaaacaggt	cgctgaaaac	taaaatgtcc	acatccctaa	ctggcaaccc	acatcaaccc	120
caaaagggtg	aagaatcatc	taagatattt	cagatgctct	atgaagaaat	tcactttaac	180
acttataact	gtaagacttt	gcatacatta	caacagtgc	ttagtgtatac	aagttgtaaa	240
atacgtttcc	attccttttg	attttgcata	tgatggtttt	gcatcagtca	ctgcaggtag	300
attgagcaag	ctttttgtgt	ttgttttttt	aaacatgcat	tcaactagat	atgattcaga	360
atagattaat	actccctttt	tatcactaca	gtagtagctaaa	aaattgccag	gcagtccaca	420
aaacagaatt	tgctttaaga	ccaaccacaca	gagtcag			457

<210> 686

<211> 234

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(234)

<223> n = A,T,C or G

<400> 686

ntggattttat	aaaatagttg	caatgacaaa	agaagtatgt	tttgacagta	aaaaaaagac	60
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attatggaca aaatatgcaa aatgtgcaaa gaaaaaataa atttgcatta gaaaggtggg 120
catttgatct ctgagccctg tgccatgtaa cattgccatg ttctttcact gttgtttgaa 180
tgttgtagcc cagcccttga ctctggactt aaggcaagct atgactggct ttgg 234

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<210> 687
<211> 315
<212> DNA
<213> Homo sapien

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<220>
<221> misc_feature
<222> (1)...(315)
<223> n = A,T,C or G

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<400> 687
nngtctgtga aaaactcttt ggatgattct gccaaaaagg tacttctgga aaaatacaaa 60
tatgtggaga attttgggtct aattgatggg cgcctcacca tctgtacaat ctctgtttc 120
tttgccatag tggctttgat ttgggattat atgcacccct ttccagagtc caaacccgtt 180
ttggctttgn gtgtcatatc ctattttgtg atgatgggga ttctgaccat ttataacctca 240
tataaggaga agagcatctt tctcgtggcc cacaggaaaag atcctacagg aatggatcct 300
gatgatattt ggcag 315

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<210> 688
<211> 522
<212> DNA
<213> Homo sapien

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<220>
<221> misc_feature
<222> (1)...(522)
<223> n = A,T,C or G

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<400> 688
ctgaattaga ggaggagaaa agaagccatt nnggagtact ttaattgttt agatgtgaga 60
ggctgaatgt ttgggttaag atgtagttg tcagaatcat gagaaaagg ttttaagcaag 120
gggcatttct aattctaaaa ataacaacta ctgttattta ttgagcacta tctttttgtt 180
gggtactgtc taaagtactt gatttatattt ttaaaacctt acaaaaaact tacaaggtag 240
gtactgaaag attcagtaat ttgttcaaag tcacacagca aataagcaac agactctgga 300
tttgaaccag gcaatcctag agcctgtact gttagtaatt atacttttagc acctgtcaag 360
aattcctgtt gagtgtcaag aagcaancac caagttagga tttaaagcaa acatgattga 420
agaatactgt ggtgtggttg acagtagtgc ctaagtctgt tttcagagtg aaaaatgaca 480
aattagattt taagtatggt ttggagataa tatcaggaca gt 522

```

```

<210> 689
<211> 158
<212> DNA
<213> Homo sapien

```

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<220>
<221> misc_feature
<222> (1)...(158)

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<223> n = A,T,C or G

<400> 689

tctcaactta ntntnatacc cacacccacc caanaacagg gtttggttagg nattgtttgc	60
attaataaat taaagctcca tagggctcttc tcgtcttgct gtgtcatgcc cgcctcttca	120
cgggcaggtc aatttcactg gttaaaagta agagacag	158

<210> 690

<211> 300

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(300)

<223> n = A,T,C or G

<400> 690

tagaactcgt atttttaaac ttctattctc tanccttttc cactacatta tgacacaaga	60
ccctgcagaa agtcgtctgg aaaatatcag accatctctt acttgtccca tccaatctta	120
catcgaatta tatgcaccct taaaaagtta tttggagttt taaaaaactc tattagccca	180
aattacctga aataaactcc tggcttggtc ccctaattgt tataaaaaat tgattgaaaa	240
tattcatttt aaaaatgaag ntcttgaatt tattttaaatt actgtcttgc agtgagttgg	300

<210> 691

<211> 305

<212> DNA

<213> Homo sapien

<400> 691

ctgttcagaa agtcatttgg acctggtttt gaaaataaaa caaagttaaa acctggggag	60
gagttattgt gcagtgtgga gtactcaggc tttcttataa agaaaaaaaa agttatctgg	120
taccaaagtg tgcaacctac agaccctcag gtactgccct gtgacttctc tgtatgacat	180
cacaaggctg ccaagtgcct gtttttctag aactaggagt tgggtgaggtt tggctagtgc	240
tgaaaccatg cataggattg gtttactaaa ttaaaacctt attacgtacg tcctccaaaa	300
gacag	305

<210> 692

<211> 582

<212> DNA

<213> Homo sapien

<400> 692

caggaaatgg ataaccattt taactgtatt ttttgcagcc cgtaccttct tgggaataca	60
attgtctaac tttttatttt tggctctggct gttgtggtgt gcaaaactcc gtacattgct	120
atthttgccac actgcaacac cttacagatg tggaagatgt gaaatttgtc atcaattatg	180
actaccctaa ctctcagag gatttatattc atcgaattgg aagaactgct cgcagtacca	240
aaacaggcac agcatacact ttctttacac ctaataacat aaagcaggtg agcgacctta	300
tctctgtgct tcgtgaagct aatcaagcaa ttaatcccaa gttgcttcag ttggctgaag	360
acagaggtgc aggttaaggat gactgatagg aaatgttggg agttacgagt cacatcgttg	420
tctacaaatc catttaaatg gtattggagg gtgagtaaaa ccttgaatgt gaaaacttaa	480

gctgaaaaat tgtaaaaaca tttcacgcct accatgaata gatctgtttc tttctgtcca 540
 caatgatttg tgtcatagac ataattgac aatttgcaat tg 582

<210> 693
 <211> 275
 <212> DNA
 <213> Homo sapien

<400> 693
 ccaattgatt tgatggtaag ggagggatcg ttgacctcgt ctgttatgta aaggatgcgt 60
 agggatggga gggcgatgag gactaggatg atggcgggca ggatagttca gacggtttct 120
 atttcctgag cgtctgagat gttagtatta gttagttttg ttgtgagtgt taggaaaagg 180
 gcatacagga ctaggaagca gataaggaaa atgactatga gggcgtgac atgaaagggtg 240
 ataagctctt ctatgatagg ggaagtagcg tctttg 275

<210> 694
 <211> 397
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(397)
 <223> n = A,T,C or G

<400> 694
 nggtctgcat ttttattgcg atctgcagat gaactggaaa atctcatttt acaacagaac 60
 tgagacagac gaccaccata ttcactgagg tctaaatttg cagtttccac taatgacatt 120
 ttgatttccc aacagagata cttctgggtc tactgcacag tcttttaaga gaaatacttc 180
 cattatgcc aattgtcctt gatccgtaag tgatgtgta aggtgcttca aaggaactct 240
 gacctctgaa gtacttgagc tacttttagta tgtccagcct attgcttttt gttttagtgt 300
 gtcaccataa atatcagggg cataaaaggc tatctattct taattcaagg ataaaacaga 360
 agaagcttgt ggtataaaac aatagttcaa gatccag 397

<210> 695
 <211> 609
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(609)
 <223> n = A,T,C or G

<400> 695
 ctgagcttcc atttgtcagc tagcactgng gtagtcaacc atgcgaatga ggctattttg 60
 gacctcatga ttgtccagtg cctgggctga taccngggga aacgaaattt tgtggctgcc 120
 cacaaaatca tggaaaataa tgatttttta gaaaacctcc actgntttgt tgtgcagcaa 180
 taaataactg aaacaccaat ccaaaaaact tataaagcta taacaattaa aacagnataa 240
 taatagtncc gggatacaaa aatggtcaaa ttgaagagga taciaagcct caaagcagtc 300
 ctcaactcata ananccttgt tgtatcacta aaanggcatt aaaattgaga anaaggaana 360

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actagtggat taattaataa atgagaagta tccataagga aaaattaaaa ttnnattcct 420
gcttcacatt atgaaaaaat acaaacaaca gattgattaa agacttaaat gngatcaaca 480
aaatgttaaa actgtgataa gaacatttaa gaaaatagtt ctatnaccct gggataaaac 540
attttcntcc aaggcattaa agtggttaaat gaaaagactg atncatttat tcattagaat 600
ttaaattcn 609

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<210> 696
<211> 300
<212> DNA
<213> Homo sapien

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<400> 696
ctgcaaaata agcgtgctaa attaaattgt ctttaaggttt ttccacttca ttttgtgact 60
ttgtgtgggt cgaattttctc agtatatttaa ccagtgtggt gatgttaaag tcaaaggctg 120
cagtatgtct atattcctgc tgtactcatt ggtagtttca gtatatgtaa tgtgagttta 180
aatagtgaat ttgtatctca tattaacatt tcaaagtctc atattgaaaa tggaaaatag 240
taaacacggg aattgatttt attctgggtg tctataatac ttcattttta atgtaaatgg 300

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<210> 697
<211> 391
<212> DNA
<213> Homo sapien

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<220>
<221> misc_feature
<222> (1)...(391)
<223> n = A,T,C or G

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<400> 697
nngtcatgtn tgatgnatct gancaggttg ctccacaggt agctctagga gggctggcaa 60
cttagagggt gggagcagag aattctctta tccaacatca acatcttggt cagatttgaa 120
ctcttcaatc tcttgcactc aaagcttggt aagatagtta agcgtgcata agttaacttc 180
caatttacat actctgctta gaatttgggg gaaaatttag aaatataatt gacaggatta 240
ttggaaattt gttataatga atgaaacatt ttgtcatata agattcatat ttacttctta 300
tacatttgat aaagnaaggc atgggttggtg ttaatctggt ttatttttgn tccacaagtt 360
aaataaatca taaaacttga acaaaaaaaaa a 391

```

```

<210> 698
<211> 536
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(536)
<223> n = A,T,C or G

```

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<400> 698
ctgagcatat agcaataaaa ataacataat ttttatgtgt acaatattta tggaatacgt 60
tactggaaca gataaataat ttagttaata acatgacaaa gaacagaaat tgtatacact 120
atacagcata gtaatagaat aatgaatgat taaagttatt aatattaggt agaaaatgaa 180

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gggtatcttt	gagagcagaa	ctcaaggaag	caagcaat	gccttatgag	gaaagagtta	240
cctgtggata	aaggagaaac	tgaaaaat	acaagtcaag	actttttgag	caaagacaaa	300
aatatgacta	tgagtcacca	attcagtaca	gtgaaaaaaa	agttgaagag	atatcttgga	360
agtaaaccat	gttgtggaag	agcagggttt	tgataatcat	gggattattc	tgaatgaatt	420
ttaaatgcga	taggaatata	tgagataatt	tcaccagaga	ataatatgat	catgtttgca	480
tttcaaaggg	gtgtatctgg	tgcaactgngt	agaataaata	ggntatgtga	gcaagt	536

<210> 699

<211> 419

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(419)

<223> n = A,T,C or G

<400> 699

ngtccacctg	agggcaggtg	acaaggacct	gacagagccc	atgcagggct	ttagatttgg	60
acacacaaga	gttgataact	tcctcatgaa	ctccttgcc	gatctaaact	catattatgg	120
gttctgactg	tttgagtaat	catcttcaag	gttaaacctc	ttggcagtta	cccttttcac	180
aaagtgcaca	gtgggaatcg	agaatcgata	gggttaat	tgagcagtg	gcttatacca	240
ttcacctctg	tttttttgtg	attatttcac	agataatgag	accttaataa	caaataaggcg	300
taaaaaaatt	ttcacattga	aatgatagaa	acatttgatg	taataaaaact	tggttggtt	360
gatattttta	ggaattgaaa	cctagcaatc	ttattggaga	gacaagaatt	ggtctccag	419

<210> 700

<211> 336

<212> DNA

<213> Homo sapien

<400> 700

ccacttattg	tccttaaaaa	tcatactga	tacatggaca	gtaagtgtgt	tttcagatgg	60
agtaccagca	ccgaaaatgg	gttgagggag	gatgggttgt	atgtatgttt	ctgcccacta	120
attttgagca	gccatattat	gaattaaatc	gtcacagcca	agtaataacc	caagaatgg	180
atgagtttca	tgtgtaatag	ctcaaatgga	ataagcatga	atgctggagt	ggaccattat	240
cctcaaatat	tctatgtcac	ttctcattta	aagactcttg	ttatgaacta	ttagaaactt	300
taggcaaaat	caaaagtatt	tgcggcacaaa	taaagg			336

<210> 701

<211> 418

<212> DNA

<213> Homo sapien

<400> 701

ccatgtgatg	atgttgacaa	cccctgaaga	gcctcagtc	attgttccac	gtttaagaac	60
taggaatacc	aggactgatg	caattctact	gggtcactat	cgcttgtcac	aagacacaga	120
caatcagacc	aaagtatttg	ctgtaataac	taagaaaaaa	gaagaaaaac	cacttgacta	180
taaatacaga	tattttcgtc	gtgtccctgt	acaagaagca	gatcagagtt	ttcatgtggg	240
gctacagcta	tgttccagtg	gtcaccagag	gttcaacaaa	ctcatctgga	tacatcattc	300
ttgtcacatt	acttacaaat	caactggtga	gactgcagtc	agtgtttttg	agattgacaa	360

gatgtacacc cccttggttct tcgccagagt aaggagctac acagctttct cagaaagg 418

<210> 702
 <211> 261
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(261)
 <223> n = A,T,C or G

<400> 702
 gggcctgttg tgggggtggg ggaagcaggg aggggaacag ctaaataagg tgcgtgtgat 60
 ttggttaaaa aatagtaggg ggatgatgct aataattagg ctgnggggtgg ttgtgttgat 120
 tcaaattatg tgttttttgg agagtcagt cagtggtaga aatataattg ttgggacnat 180
 tagnttttagc attggagtag gtttaggtta tgtacgtagt ctaggccata tgtgttggan 240
 attgagacta gtagggctag g 261

<210> 703
 <211> 261
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(261)
 <223> n = A,T,C or G

<400> 703
 gggcctgttg tgggggtggg ggaagcaggg aggggaacan ctaaataagg tgcgtgtgat 60
 ttggttaaaa aatagtaggg ggatgatgct aataattagg ctgnggggtgg ttgtgttgat 120
 tcaaattatg tgttttttgg agagtcagt cagtggtagt aatataattg ttgggacnat 180
 tagnttttagc attggagtag gtttaggtta tgtacgtagn ctaggccata tgtgttgag 240
 attganacta gtagggctag g 261

<210> 704
 <211> 381
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(381)
 <223> n = A,T,C or G

<400> 704
 ngntntgaatt ctattaaaga tacaaagagg agctggtacc atttcttctg aaactattac 60
 aaacaactga aaagggtggaa tttctcccta attcatttta ggaggccagc attatactga 120
 taccaaaacc tggcagaggt acaataataa aaggaaactt caagtcagta tcaactgatga 180
 acaccaatgt gaaaatcctc aataaaatac tggcaaaactg aattcagcag cacatcaaaa 240

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agctaatacca ccacaatcaa gtcagcttca tccctgcgat gcaagtctgg ttcaacatat 300
gcaaatacaat aaatacaatt catcagataa acagagctaa agacaaaatt cacatgattt 360
tctcaataga tgcagaaaag g 381

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<210> 705
<211> 477
<212> DNA
<213> Homo sapien

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<400> 705
ctgaaccctc gtggagccat tcatacaggt ccctaattaa ggaacaagtg attatgctac 60
ctttgcacgg ttaggggtacc ggggccgtta aacatgtgtc actgggcagg cggtgccctct 120
aatactggtg atgctagagg tgatgttttt ggtaaacagg cggggtaaga tttgccgagt 180
tccttttact ttttttaacc tttccttatg agcatgcctg tggtgggttg acagtgaggg 240
taataatgac ttgttggtga ttgtagatat tgggctgtta attgtcagtt cagtgtttta 300
atctgacgca ggcttatgcg gaggagaatg ttttcatgtt acttatacta acattagttc 360
ttctataggg tgatagattg gtccaattgg gtgtgaggag ttcagttata tgtttgggat 420
tttttaggta gtgggtgttg agcttgaacg ctttcttaat tgggtggctgc ttttagg 477

```

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<210> 706
<211> 266
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(266)
<223> n = A,T,C or G

```

```

<400> 706
ccatggctag gtttatagat agttgggtgg ttggtgtaaa tgagtgaggc aggagtccga 60
ggaggttagt tgtggcaata aaaatgatta aggatactan tataagagat caggntcgtc 120
ctttagtgtt gtgtatggct atcatttgtt ttgaggntag tttgattagt cattgttggg 180
tggttaattag tcggttggtg atgagatatt tggaggtggg gatcaataga gggggaaata 240
gaatgatcag tactgcggcg ggtagg 266

```

```

<210> 707
<211> 358
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(358)
<223> n = A,T,C or G

```

```

<400> 707
ccatcagaga aatgcaaatac aaaaccacaa tgagatacca tctcacacca gttagaatgg 60
caatcattaa aaagtcagga aacaacaggt gctggagagg atgtggagaa ataggaacac 120
ttttacaccg ntgggtgggac tgtaactag ttcaaccatt gtggaagtca gtgtggcgat 180
tcctcaagga tctagaacta gaaataccat ttgaccagc cggccaatat tcaacattct 240

```


taaaggaaag aatthttcaac ccagaatttc atatccagcc aaactaagct tctgttagtga 300
aggagaaata aaatacttta cagacaagca aatactgaga gattttgtca ccaccagg 358

<210> 708
<211> 491
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(491)
<223> n = A,T,C or G

<400> 708
cctactatgg gngttaaatt ttttactctc tctacaaggt tttttcctag tgtccaaaga 60
gctgttcctc tttggactaa cagttaaatt tacaagggga ttttagagggt tctgtgggca 120
aatthtaaagt tgaactaaga ttctatcttg gacaaccagc tatcaccagg ctcggtagggt 180
ttgtcgctc tacctataaa tcttccact atthttgctac atagacgggt gtgctctttt 240
agctgttctt aggtagctcg tctggtttcg ggggtcttag ctttggtctt ccttgcaaag 300
ttattttctag ttaattcatt atgcagaagg tataggggtt agtccttgct atattatgct 360
tggttataat ttttcatctt tcccttgctg tactatatct attgcgccag gtttcaattt 420
ctatcgcta tactttattt gggtaaatgg tttggctaag gttgtctggt agtaagggng 480
gagtgggttt g 491

<210> 709
<211> 460
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(460)
<223> n = A,T,C or G

<400> 709
nggttttttt tgtagagcaa ataatttatg caaaatatgt tacaaaatct gggatgctaa 60
atagttgaca caagtactgt gtttgacatt tagtttcatt tgaattagta atagaatttg 120
ctccttccaa catttacatc ttttttctt ctgactttat atattttcaa taaaaatttg 180
ctccacagtt tttaagntca ttcttcttga atccgntttt acatttgctg ngacaaacct 240
gcataaaact agattttata gatataactt ctttggaaga gataaaaatt caaaagtthg 300
acattgcttt canttattct tttcttcatt gttttgattg gcccctgtta gattgatgta 360
ttgccaatct acttttgatg gcatgaatnt aaaaagacaa cataaaaagc ncttctagtg 420
caacagtaat tgaaacttgc agttttccat taaaaaaaaa 460

<210> 710
<211> 542
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature

<222> (1)...(542)

<223> n = A,T,C or G

<400> 710

```
ctgttacagt gacaagagat aaaaagatag acctgcagaa aaaacaaact caaagaaatg      60
tggttcagatg taatgtaatt ggagtgaaaa actgtgggaa aagtggagtt cttcaggctc      120
ttcttggaag aaacttaatg aggcagaaga aaattcgtga agatcataga tcctactatg      180
cgattaacac tgtttatgta tatggacaag agaaatactt gttgttgcat gatatactcag      240
aatcggaatt tctaactgaa gctgaaatca tttgngatgt tgtatgcctg gtatataatg      300
tcagcaatcc caaatccttt gaatactgtg ccaggatttt taagcaacac tttatggaca      360
gcagaatacc ttgcttaatc gtagctgcaa agtcagacct gcatgaagtt aaacaagaat      420
acagtatttc acctactgat ttctgcagga aacacaaaat gcctccacca caagccttca      480
cttgcaatac tgctgatgcc cccagtnagg atatctttgt taaattgaca acaatggacc      540
tg
```

<210> 711

<211> 394

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(394)

<223> n = A,T,C or G

<400> 711

```
caaaccact ccaccttact accagacaac cttagccaaa ccattttacc aaataaagta      60
taggcgatag aaattgaaac ctggcgcaat agatatagta ccgcaaggga aagatgaaaa      120
attataacca agcataatat agcaaggact aacctctata ccttctgcat aatgaattaa      180
ctanaaataa ctttgcaagg agagccaaag ctaagacccc cgaaaccaga cgagctacct      240
aagaacagct aaaagagcac acccgtctat gtagcaaaat agtgggaaga tttataggna      300
gaggcgacaa acctaccgag cctggtgata gctggtgtgc caagatagaa tcttagttca      360
actttaaatt tgcccacaga accctctaaa tccc
```

<210> 712

<211> 552

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(552)

<223> n = A,T,C or G

<400> 712

```
gaggctctgta naatgccagg ctcaaatttg tctttataat ttaataccag aaatctttcc      60
cttgtgatgt ttctttcttt ctggattgcc tctatagcag gggatagcgg gggaggataa      120
ggcacatctt tgntgtactg agaaatttga ccacgcagga tgatgtggct gttctcattc      180
atctgcacag agaaaaataa tgataaaata tccctttcct atgtttactg attttatggc      240
tgccataatg gaagcctcct tgactattta atcctttctg tcaactaggt tcgatttttt      300
ttttaattta cctgtttagag gtatttaana attttaacta gctanaaata attacattcc      360
```

```

aaaggaacac caaggcaaat aaatggttgg taatcagcaa aagaattaca ttagttggtg 420
ntgctactta ttagggggag aactgttttt ttttaaattt aaacaattta ataattctaa 480
ctgcaaataa ttttagatgc agcaaaggac tatgtagncg ttaatacctc atgttgatat 540
tttcataata tt 552

```

```

<210> 713
<211> 518
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(518)
<223> n = A,T,C or G

```

```

<400> 713
ccaaaaactg gaagcagctc actaaacaaa cagtggcata cccatagaac tgcatacttc 60
tcagcagtat gaaagaatga gctacttata taagcatcat tgataaacct caaaaaaaaa 120
atgccacatg aanaaaccca aagggganaa acataaaaaac tttatatgtc agtcatataa 180
aattctanaa aatgcaaact aatccatcnt aaaggaaaagt aaatcaacag ttgtctggag 240
gaccananag agcaggagga ganagattat taaaggggtt aaagtaaatt tgggagtgcc 300
cttcctntttt taaatnctat gaaaatgaaa gttaaaggcnc atgcatgttg taaactaata 360
gtaacaaaca naatgggttg gagtgggttg ttgtctgggg acatcattac aaaatgtaag 420
ccagtttatn taaattttga aaagaccgtg gactctgac tgactgatna atgttggaag 480
agataagtgt gctgcaaatg ggggaattaa taaaacag 518

```

```

<210> 714
<211> 281
<212> DNA
<213> Homo sapien

```

```

<400> 714
ccaattgatt tgatggtaag ggagggatcg ttgacctcgt ctgttatgta aaggatgcgt 60
agggatggga gggcgatgag gactaggatg atggcgggca ggatagttca gacggtttct 120
atttcctgag cgtctgagat gttagtatta gttagttttg ttgtgagtgt taggaaaagg 180
gcatacagga ctaggaagca gataaggaaa atgactatga gggcgtgatc atgaaagggtg 240
ataagctctt ctatgatagg ggaagtagcg tctttagtagac c 281

```

```

<210> 715
<211> 443
<212> DNA
<213> Homo sapien

```

```

<400> 715
cttgaaatca gcaacacact tacaaatgag aaaatgaaaa tagaagagta tataaagaaa 60
gggaaagagg attatgaaga gagtcatcag agagctgtgg ctgcagaggt atccgtactt 120
gaaaactgga aggagagtga agtgtataag ctacagatca tggagtcaca agcagaagcc 180
tttctgaaga agctggggct gattagccgt gatcctgcag catatcccga catggagtct 240
gatatacggt catgggaatt gtttctttct aatgttacaa aagaaaattga gaaagcaaag 300
tctcagtttg aagaacaaat taaggcaatt aaaaatggtt cccggctcag tgaactttct 360
aaagtgcaga tttctgagct ttcatttctt gcctgttaaca cggttcatcc cgagttactc 420

```

cctgagtctt caggccacga tgg

443

<210> 716

<211> 639

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(639)

<223> n = A,T,C or G

<400> 716

ccaaanaaaa	tgaagtag	agtctgcata	gtaagcttac	agataccttg	gtatcaaaac	60
aacagttgga	gcaaagacta	atgcagttaa	tggaatcaga	gcagaaaagg	gtgaacaaag	120
aagagtctct	acaaatgcag	gttcaggata	ttttggagca	gaatgagggt	ttgaaagctc	180
aaattcagca	gttccattcc	cagatagcag	cccagacctc	cgcttcagtt	ctagcagaag	240
aattacataa	agtgattgca	gaaaaggata	agcagataaa	acagactgaa	gattcttttag	300
caagtgaacg	tgatcgttta	acaagtaaag	aagaggaact	taaggatata	cagaatatga	360
atttcttatt	aaaagctgaa	gtgcagaaat	tacaggccct	ggcaaatgag	caggctgctg	420
ctgcacatga	attggagaag	atgcaacaaa	gtgtttatgt	taaagatgat	aaaataagat	480
tgctggaaga	gcaactacaa	catgaaattt	caaacnaaat	ggaagaattt	angattctaa	540
atgaccaaaa	canagcatta	aaatcagaag	ttcagaagct	gcagactctt	gtttctgcac	600
angcctaata	aggatgntgn	ggaacaaatg	gaaaaattg			639

<210> 717

<211> 473

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(473)

<223> n = A,T,C or G

<400> 717

nntgaggcta	ctgctgtttt	attacaacat	tacctcttgt	ttttataaag	tgtaccaaga	60
tttaaatga	taactttatt	ttacttgaaa	aaaaaaagtt	tnntttatca	ccagtgttac	120
agttgtcttc	tgtttctttt	tgttttgntt	tatttgnttt	ccttttttagc	caaagagtga	180
acagaanatt	ttcttatttt	ggtggctatt	cattttactt	ttaaaagtga	ttggtggatt	240
ttagactaat	tatgggggaa	tttgccacca	aaataaaaaa	tatgtaaagn	gtagtatta	300
cagagtgggt	aaaatgtggg	ttagtactta	tttattccat	taattgatta	tttgactgtt	360
tataaagaaa	gttgctttat	ttcttttaac	atcttcaaaa	gatgatcctt	tcttgtcaca	420
ttatagccaa	aagaagcaga	gaacttcact	gtctgcattt	ggttcctggg	tgg	473

<210> 718

<211> 207

<212> DNA

<213> Homo sapien

<400> 718

```

ggtaaatgct agtataatat ttaccatctc acttctagga atactagtat atcgctcaca    60
cctcatatcc tccctactat gcctagaagg aataatacta tcaactgttca ttatagctac    120
tctcataacc ctcaacacccc actccctctt agccaatatt gtgcctattg ccatactagt    180
ctttgccgcc tgcgaagcag cggtagg                                     207

```

```

<210> 719
<211> 255
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(255)
<223> n = A,T,C or G

```

```

<400> 719
cctatattac ggatcatttc tctactcaga aacctgaaac atcggcatta tctctctgct    60
tgcaactata gcaacagcct tcataggcta tgtctctccg tgaggccaaa tatcattctg    120
agggggccaca gtaattacaa acttactatc cgccatccca tacattggga cagacctagt    180
tcaatgaatc tgaggaggct actcagtaga cagncccacc ctcacacgat tctttacctt    240
tcacttcac tcgcc                                     255

```

```

<210> 720
<211> 455
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(455)
<223> n = A,T,C or G

```

```

<400> 720
ccaatgtcga aacctacaag atttccttaa aatctcta ataggcatta cttgcctttca    60
attgacaaat gatgcctct gactagtaga tttctatgat ccttttttgt cattttatga    120
atatcattga ttttataatt ggtgctat ttgaanaaaaa atgtacattt attcatagat    180
agataagtat cagggtctgac ccagtgga aacaaaagcca aacaaaactg aaccacaaaa    240
aaaaaggctg gtgttcacca aaaccaaact tgttcattta gataatttga aaaagctcca    300
tagaaaaggc gtgcagtact aagggaacaa tccatgtgat taatgnttnc attatgttca    360
tgtaanaagc cccttatttt tagccataat tttgcatact gaaaatccaa taatcagaaa    420
agtaattttg ccacattatt tatnaaaaaa gttcc                                     455

```

```

<210> 721
<211> 530
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(530)
<223> n = A,T,C or G

```

<400> 721

ccagtgccttg	ctgccgtggt	ttagtgattg	ggtgtagaa	ataaaaactc	aggtctat	60
cttaccagtc	agtaacaatt	tttagagaat	gtacttggtg	tataatat	ggacttcagg	120
aactttattg	ggngggggg	ttaattttgc	cttaccctgt	tcactttcag	atgattaggc	180
ttttgcactt	tagaatgaga	aacttgtgac	gtagtggtg	tcttactagc	tttaatttgt	240
atgtagcaat	gaattgtgaa	tcttagtgca	gtgggttttt	ttaaaaaact	caaaaagctg	300
ggaattaagt	ggtttcagta	ataatgctat	accgaggtgc	ttgcattgta	tttcataatt	360
ttgttacaaa	ccaaaattat	ttttaatgan	aacgggtctg	ggttcagagg	tgtgatgcca	420
gaatgtat	tcgtactgtt	aggcccttgg	aacagatacc	ggtgctttct	tgaaagatga	480
aagaaatgca	atgggtgctc	ttcatgcaag	gttgcaaac	taccaagaat		530

<210> 722

<211> 242

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(242)

<223> n = A,T,C or G

<400> 722

ccaaggggtca	tgatggcagg	agtaatcana	ggtgntcttg	tgttgtgata	agggnggaga	60
ggttaaagga	gccacttatt	agtaatgttg	atagtagaat	gatggctagg	gtgacttcat	120
atgagattgt	ttgggctact	gctcgtagtg	cgccgtagcag	ggcgtagttt	gagtttgatg	180
ctcatctga	tnagaggatt	gagtaaacgg	ctaggctaga	ggtggctaga	ataaatagga	240
gg						242

<210> 723

<211> 472

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(472)

<223> n = A,T,C or G

<400> 723

cctactatgg	gtgttaaatt	ttttactctc	tctacaaggt	tttttcctag	tgtccaaaga	60
gccgttctct	tttggactaa	cagttaaatt	tacaagggga	tttagagggg	tctgtgggca	120
aattttaaagt	tgaactaaga	ttctatcttg	gacaaccagc	tatcaccagg	ctcggtagg	180
ttgtcgccct	nacctataaa	tcttccact	atcttgcctac	atagacgggt	gtgctctttt	240
agctgttctt	aggtagctcg	tctggnttcg	gggtcttag	ctttggctct	ccttgcaaag	300
ttatttctag	tttaattcatt	atgcagaagg	tataggggtt	agtcttgcct	atattatgct	360
tggttataat	ttttcatctt	tcccttgccg	tactatatct	attgcgccag	gtttcaattt	420
ctatcgccct	tactttat	gggtaaatgg	tttggctaan	gttgtctggt	ag	472

<210> 724

<211> 292

<212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(292)
 <223> n = A,T,C or G

<400> 724
 nccaccactg cagccctaca tacagntgaa aaaaaattcc attctgttaa catttgtttt 60
 ataagttttc acncaatata caaaaaaccc ctctgcactt cttgtaaaga acaaaaaaga 120
 tacacaacag ttaagcgtaa agatcacagg caatagcatt caaacatgga tgtgggnaga 180
 gaaaggagta cctggcatga gtacctgctt agttngactg aatccttgat ttttaatttg 240
 gcttttcatg ggccgntcac aacaccaacg ctgngngagg tatggtagtc ag 292

<210> 725
 <211> 122
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(122)
 <223> n = A,T,C or G

<400> 725
 atagaaaggg cataccctaaa atgttactga aaatntaata caaattccaa gattcaccaa 60
 ngaaagtaaca aaaacctggc ctgcangngg ncccctatcc cgtggctcca tggntgatgt 120
 gg 122

<210> 726
 <211> 477
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(477)
 <223> n = A,T,C or G

<400> 726
 ctgaaccctc gtggagccat tcatacaggt ccctaattaa ggaacaagtg attatgctac 60
 ctttgcacgg ttaggggtacc gcggccgtta aacatgtgtc actgggcagg cgggtgcctct 120
 aatactggtg atgctagagg tgatgttttt ggtaaacagg cggggtaaga tttgccgagt 180
 tccttttact ttttttaacc tttccttatg agcatgcctg tgttgggttg acagtgaggg 240
 taataatgac ttgttggtga ttgtanatat tgggctgtta attgtcagtt cagtgtttta 300
 atctgacgca ggcttatgcg gaggagaatg ttttcatgtt acttatacta acattagttc 360
 ttctataggg tgatagattg gtccaattgg gtgtgaggag ttcagttata tgtttgggat 420
 tttttaggta gtgggtgttg agcttgaacg ctttcttaat tggcggctgc ttttagg 477

<210> 727

<211> 416
 <212> DNA
 <213> Homo sapien

<400> 727
 cctgtctttg aatggatgaa atagggttaat aaaaaacatc actggtttaaa aactagaaca 60
 ctgaaaaatt ctaggaaagc ttattttccc ttatatTTTT atgggtacttt caacacttaa 120
 taacactatt tcaattaagt tttctcctag agtttatagt atatcagtac attcttttct 180
 gtggatgcaa taatatagaa tcttattcca aatcttactg gcagggttctc ttaaattctt 240
 caacggctgc catagtgatt aaccaaatt agttatgatt tctgcctatc tgtgtgagaa 300
 cttacagggg aaattgttct aaacctgagg aacatgaagt aactgtactg cacactccaa 360
 atgatgacag tcattttata tcaccttcaa ttaccaaca gcttttaata gtctgg 416

<210> 728
 <211> 416
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(416)
 <223> n = A,T,C or G

<400> 728
 cctgtctttg aatggatgaa atagggttaat aaaaaacatc actggtttaaa aactagaaca 60
 ctgaaaaatt ctaggaaagc ttattttccc ttatatTTTT atgggtacttt caacacttaa 120
 taacactatt tcaattaagt tttctcctag agtttatagt atatcagtac attcttttct 180
 gtggatgcaa taatatagaa tcttattcca aatcttactg gcagggttctc ttaaattctt 240
 caacggctgc catagtgatt aaccaaatt agttatgatt tctgcctatc tgtgtgagaa 300
 cttacagggg aaattgttct aaacctgagg aacatgaagt aactgtactg cacactccaa 360
 atgatgacag tcattttata tcaccttcaa ttaccaaca gcttttaata ntctgg 416

<210> 729
 <211> 564
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(564)
 <223> n = A,T,C or G

<400> 729
 ctgtgagtag aggagtcttc ccgagagtag cagttgttga tccaaatgat tgaagccttc 60
 aggtaagggg ataactgctg caggaattct ttcttgaaga atttaagctg tttggtaaga 120
 attctgtaac tacatacctt tgaaacacta ttcacattca aataaacgct tgttttctag 180
 ccaggcacag gctcaattag tttttcaaac tctagccaag gcagtatttc atttgggaaa 240
 tcatgcaaca gaactgctca attcttaact tctcctgctg ttaacattta cacttagact 300
 gccagcaaca gttaacttaa attttgggtct caagggaaca aaaaaaaatt gcattcagaa 360
 tttaatatag tatttttaaaa ctaatttttag cctgtaagnc attatgagca atagtaactt 420
 ttatacctcc tcatcttgnc tgataatata ttctatatgc tgncaatctg attatatagt 480

ctatatgcta gaagttgctg attttcattc tgccaccaa aaaaactgtc cttttttttt 540
tatgggggaa aaaggaatt taaa 564

<210> 730
<211> 310
<212> DNA
<213> Homo sapien

<400> 730
ccatttttat ttcttcttca gagaagtgtt tatttaggtc tgttgcccat ttacaatta 60
ggccatatgt ttcttgctg ttgagttgta tgtgtgtttg tataaatttt gcatattaac 120
cccttatcac acgtatgttt tttaaaataa attttgctta ttaatctttt atcagatgta 180
tggtttccaa atatattctt ccgatccatg gattctcttt ttgtttatga ttgtttcttt 240
gctcttcgga agctttttgt ttgtttttgt tatttgtttt actttgatat agtcccat 300
attgtttttg 310

<210> 731
<211> 467
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(467)
<223> n = A,T,C or G

<400> 731
ngacaacctt agccaaacca ttaccctaaa taaagtatag gcgatagaaa ttgaaacctg 60
gcgcaataga tatagtaccg caaggggaaag atgaaaaatt ataaccaagc ataataaagc 120
aaggactaac ccctatacct tctgcataat gaattaacta gaaataactt tgcaaggaga 180
gccaaagcta agacccccga aaccagacga gctacctaag aacagctaaa agagcacacc 240
cgtctatgta gcaaaatagn gggaagattt ataggnagag gcgacaaaacc taccgagcct 300
ggtgatagct gggtgtccaa gatagaatct tagntcaact ttaaatttgc ccacagaacc 360
ctctaaatcc ccttgtaaat ttaactgnta gnccaaagag gaacagntct ttggacacta 420
ggaaaaaacc ttgtagagag agtaaaaaat ttaacacca tagtagg 467

<210> 732
<211> 492
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(492)
<223> n = A,T,C or G

<400> 732
cctactatgg gtgttaaatt ttttactctc tctacaaggt tttttcttag tgtccaaaga 60
gctgttctc ttggactaa cagctaaatt tacaagggga tttagagggt tctgtgggca 120
aatttaagt tgaactaaga ttctatcttg gacaaccagc tatcaccagg ctcggtaggt 180
ttgtcgctc tacctataaa tcttcccact attttgctac atagacgggt gtgctctttt 240

```

agctgttctt aggtagctcg tctggnttcg ggggtcttag ctttggtctt ccttgcaaag 300
ttattttctag ttaattcatt atgcagaagg tataggggtt agnccttgct atattatgct 360
tggntataat ttttcattctt tcccttgccg tactatatct attgcgccag gtttcaattt 420
ctatcgcccta tactttattt gggtaaattg tttggctaag gttgtctggt agtgaggcgg 480
agnngggttg gg 492

```

```

<210> 733
<211> 562
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(562)
<223> n = A,T,C or G

```

```

<400> 733
ntgaaatggc aatagcattc actgtcgtat tttgcagtgc tcaggaagtg ggacgttaac 60
tttgaagggtg cttgtttgta ttagctctgc taggtttacc tctacaacgt agatttcagc 120
agctatgctg actgacacta cattctagtt ctttaagattt tttttccana tcccccttc 180
cccagctaga catacgtagc atactttcat cttattcagt ctttctgtaa cctgctgctg 240
cttttagtcc tcctcacctc agatcggaat caatggagtg ggcccagagg atacatttta 300
attccagtaa tggtaggtag atttgtcctg ctttctaaaa catctcctca tttcatattt 360
ccactccata ttgattccat aagggaataa taatgggtgn ttccctcctt agggaggcaa 420
tgcaaagagn gtggacatct tctaattctg aggaacagtn gttgatttcc cttgaaggag 480
cttacatatt gactgtnttt cacaataacc tgnttgcccc agntcaatcc ctcattttta 540
tacttaatgt tggtnctggg ct 562

```

```

<210> 734
<211> 265
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(265)
<223> n = A,T,C or G

```

```

<400> 734
nggtccagaa caagagaaat aactgcagaa aacacatatg gttggaaacc atgcgcttgt 60
gactttttct gttagcctatg ggagtggaca gagtgggtaa cccaagatgt ttttaagact 120
gactggacta agaatggcgt acttatagcc aactacttcc cccctaattg gactgaaggg 180
attcataatg atcacaaatta gcattacggt taagtatttt aggggttgacg tctaagctca 240
cacttgaaag gtatttatct aatgg 265

```

```

<210> 735
<211> 216
<212> DNA
<213> Homo sapien

```

```

<400> 735

```

```

atttaatacg tgctcactgc tcggcacgcg ctgaagctac agttaacaat cagtgcagcac      60
atattaaatg ataaaataat gctgatggta aacattcata acagcagagt aagattttgg      120
cagttttgtg tctcggtaac ataactgtaa ccttagatga acacctatcc cttcatgatc      180
tgactttaga ggcaaggagt ttgtaacatc taatgg                                216

```

```

<210> 736
<211> 285
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(285)
<223> n = A,T,C or G

```

```

<400> 736
ctgaaaggca acntggagac tagttagtct agtcccctca tattataaat tggatatgctg      60
aggccaggca gtaaaattgct atggagctct ccaatttaag gccagtttga ctccaagggt      120
agggtttcta gtaaaatttt gtgattaaat tggaaactct aattttatttt tctatgngtt      180
tttggtacct aatcctcata agcaagccat atttcaaggc tgatcaatga aaacacccaaa      240
taccaaagct tcctttccct tccaaattta ctgacccttt gtcag                                285

```

```

<210> 737
<211> 509
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(509)
<223> n = A,T,C or G

```

```

<400> 737
agangaagaa gangaagatt aagggaagaa tacatcggtc aagaagagct caacaaaaca      60
aagcccatct ggaccagaaa tcccgcagat attactaatg aggagtacgg agaattctat      120
aagagcttga ccaatgactg ggaagatcac ttggcagtga agcatttttc agttgaagga      180
cagttggaat tcagagccct tctatttgtc ccacgacgtg ctctttttga tctgtttgaa      240
aacagaaaaga aaaagaacaa catcaaattg tatgtacgca gagttttcat catggataac      300
tgngaggagc taatccctga atatctgaac ttcattagag gggtggnaga ctccggaggat      360
ctccctctaa acatatcccg tgagatggtg caacaaagca aaattttgaa agttatcang      420
aagaatttgg gtcaaaaaat gcttanaact ctttactgaa ctggcggaag atnaagagaa      480
ctncaagana ttctatgagc agntctctt                                509

```

```

<210> 738
<211> 97
<212> DNA
<213> Homo sapien

```

```

<400> 738
cagtgaattg aatacgactc ctatagggcg aattggggccc tctagatgca tgctcgagcg      60
gccgccagtg tgatggatat ctgcagaatt cgccctt                                97

```

<210> 739
 <211> 209
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(209)
 <223> n = A,T,C or G

<400> 739
 ccgncagtgt gatggatc tgcagaattc gcccttagcg gcccgcgcgg gcagggtcct 60
 tatatatagt agcttagttt gaaaaaatgt gaaggacttt cgtaacggaa gtaattcaag 120
 atcaagagta attaccaact taatgttttt gcattggact ttgagttaag attatTTTTT 180
 aaatcctgag gactagcatt aattgacgg 209

<210> 740
 <211> 164
 <212> DNA
 <213> Homo sapien

<400> 740
 ccaagctaata ggggtgacact gtgaatgcaa ctctaattgca gcttggcgta aatggtccta 60
 tgggcactaa ctttcaagtt aacacaaaca gaggaggtgg tgtgtgggaa tctgggtgcag 120
 caaactccca gactacatca tggggaagtg gaaatggcgc aaat 164

<210> 741
 <211> 514
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(514)
 <223> n = A,T,C or G

<400> 741
 ccagtcagaa ttgagatgtg ctgtgagtgc aaaatacact caaatctaag acttagtatg 60
 gaagaaaaag aagataaggt gnttcattaa taatctttta tattgattac atgttgaaat 120
 gatattttta atatactggg ttacataaac tgttattaag attaatTTTt cttgtttctt 180
 ttttaatatg gctactagaa aattaaatat tatgtttgtg ttcacattat atttctgttg 240
 aacaatgtgg acatagataa tctacagtca ttacattagc cttagaattt agcatcatac 300
 ttttaagcac tctgggttac taacttgaac tcccagaaac ccataagcac actctgcata 360
 taaattattg caaaattcat tcttatctct ctgaaagata tgcattttta gggtaaaaag 420
 aattcacaaa atattganc ctttaacaaat gtcaattagt atatggagag agctaaagga 480
 cttcntgtag actggtncat tggggaaaaa caga 514

<210> 742
 <211> 439
 <212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(439)

<223> n = A,T,C or G

<400> 742

gcaggtccta tgcatagtta ataagggnta taatctactc aacatggaaa atgggagcct	60
atttgcaaac acacgagtaa ttaaagtacc aattctctct tagtttcttt ttttatagtt	120
ggnttatatt gcaattataa atgntaaaca tccctagaga tgaaagttaa aatggctgat	180
cacagatcag tagcaaaata caaattgaca attcaaaatt ataaataaaa ctctgttgag	240
gatgtttaac tttgagcctc caaatttaag agctaagctt ggaagaaaca aatttatagg	300
ttatatttcc ctcttaaat aaaaaacaaa ctctctctgg cagtagnttg tgaattcctt	360
tcattgnaat gataccatga ttacaggatc aaaaatgctt aacttacttg ccattctgct	420
cacatcatca cagttgttt	439

<210> 743

<211> 275

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(275)

<223> n = A,T,C or G

<400> 743

cangacgcta ctccccctat catagaagag cttatcacct ttcacgatca cgccctcata	60
gtcattttcc ttatctgctc cctagtcctg tatgcccttt tcctaactact cacaacaaaa	120
ctaactaata ctaacatctc agacgctcag gaaatagaaa ccgtctgaac tatcctgccc	180
gccatcatcc tagtcctcat cgccctccca tccttacgca tcctttacat aacagacgag	240
gtcaacgata cctcccttac catcaaatca attgg	275

<210> 744

<211> 295

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(295)

<223> n = A,T,C or G

<400> 744

ctgtnccttt aaaaaatctg gatgtttttt atttagtgat tgttcgacaa ttagctgctt	60
caaaacataa tgtgcattgc ttatgaatgc cttcatatac taatacagat actctgataa	120
tattacactc taataaggat aatgctgaat tttgaaagga cacaaaacat ctaatgccaa	180
tatatacatg attagccaac atcttttgta tcaagaccac tcgtttttta ataaagatgc	240
aagtgtcagt tgtagattat tgggatgaag ctaaateccc agaatgcagc agcag	295

<210> 745
 <211> 477
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(477)
 <223> n = A,T,C or G

<400> 745
 cgcgttactg tacatattgc tagcaggaga caactggaaa tactaaacaa atactggaat 60
 tcacattaca gacagacgaa accaacatgg atgccacaca taacttcctt tgtagtttca 120
 cagagagcct atttgtggtt gctcaggagg ggtcatacat tgcttgacaga aatggcctga 180
 tcatagctct atgaaacaat gaattcggaa tgaaatctta ccacgacacc tctctgtagg 240
 aaagaaatgt tgcttcacgt gtgctaagtt gagataataa tatttcacat atttatatac 300
 agagaatcac tctcaaattt aacccaagat aagcaatagg atttgggggt gacttgtaca 360
 catttctaac aacacttttc ttttttctag aggtcactct caaacactga tatatcacta 420
 tagtttgagt gtanggattc agtaatcaaa gggtgttatt gcaaaagagc caggcag 477

<210> 746
 <211> 524
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(524)
 <223> n = A,T,C or G

<400> 746
 ctgtgaaatt ggggttgggag agccaaaata ctttacaact tcagaccgga gaaaaggcca 60
 gaggtgtgaa gttagactct atgatgaaac agagtcgtct tttgcatga catgttggga 120
 taatgaatcc attctacttg cacagagctg gatgccacga gaaacagtaa tatttgcttc 180
 agatgtaaga ataaattttg acaaatttcg gaactgcatg acagcaactg taatctcaaa 240
 aaccattatt acaactaatc cagatatacc agaagctaac attctgctga attttatacg 300
 agaaaataaa gaaacaaatg ttctggatga tgaaattgac agttatttca aagaatccat 360
 aaatttaagt acaatagttg atgtctacac agntgaacaa ttaaaggga aagctttgaa 420
 gaatgaagga aaagctgac cttcctatgg catcctttat gcctacattt ccacactcaa 480
 cattgatgat gaaactcaaa agtagttcga aatagatggt ccag 524

<210> 747
 <211> 456
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(456)
 <223> n = A,T,C or G

<400> 747

cctcagttct	tgattgtggt	tgacggggcg	tcacccatgaa	ggagcccatt	tagtataaag	60
cttccaacct	tttctcttaa	togtttcttt	aatcttttaa	accatcttca	agtgcatagg	120
ggagtttccg	atgccagagg	atgaaagcaa	gtgctttctc	cacctctctc	tcccagagtg	180
aaaacaaatc	cttttgctga	tacttgtttc	aaaagcatcc	attgtaaagc	ttctcagtga	240
cacaaaatac	tgagaggtaa	ctttttatca	atcaaaccac	ataccccaat	ttaacacctt	300
tcagtgtctc	gaattcaact	gacagactaa	aggggtgttc	ctgtaacagt	ctgaaatatt	360
aagtgttttt	tttggtttgt	ttttaaatct	tatttcagaa	aacttcctct	nggggtagga	420
aagtacacat	gaagcagcaa	agtaacgaag	aaaaac			456

<210> 748

<211> 474

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(474)

<223> n = A,T,C or G

<400> 748

ccanaccagg	gaaccaaagt	cagacagnga	agttctctgc	ttcttttggc	tataatgnga	60
caagaaaggg	atcatctttt	gaagatgttt	aaagaaataa	agcaactttc	tttataaaca	120
gtcaaataat	caattaatgg	aataaataag	tactaaccce	cattttaacc	actctgtaat	180
cactacactt	tacatatttt	ttatttnggn	ggcaaaantcc	cccataatta	gtctaaaatc	240
caccaatcac	ttttaaaagt	aaaatgaata	gccacaaaaa	taagaaaatc	ttctgttcac	300
tctttggcta	aaaaggaaaa	caaataaaac	aaaacaaaaa	gaaacagaag	acaactgtaa	360
cactggtgat	aaaagaaact	ttttttttac	aagtaaaaata	aagttatcaa	tttaaatctt	420
ggnccacttta	taaaaacaag	aggtaatgtt	gtaataaaaac	agcagtagcc	tcag	474

<210> 749

<211> 355

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(355)

<223> n = A,T,C or G

<400> 749

cctgggttnna	gnngctgact	gnaacctcca	cttctgttgc	tcaggcaatc	ctcctgcctc	60
agcctcctta	gtagctggga	ctacaggagt	gtgcaaccat	goccaactaa	tttttgtatt	120
tttaatagag	acagggtttc	accatgttga	tcagggttgg	ctccaaactc	tgacctcagg	180
tgatccacct	gtcccagcct	cccaaagtgc	tgggattaca	ggcatgagcc	accacgcccg	240
gnccaggata	aagtaaaaat	ttgtaagcac	acaaggccct	ttgcaacctg	gtcctgtggt	300
actactttta	ncctcctgcc	ctcccaaagt	tnctcactgt	ttttctanac	atacc	355

<210> 750

<211> 493

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(493)

<223> n = A,T,C or G

<400> 750

ccatgctggt	ctcgaactcc	tgaactcagg	tgatccaccc	gcctcagtct	cccaatagat	60
tacatatatt	attaatgaat	tgcttccttt	aacaccctat	tcattgaatt	ttccagtaaa	120
ccacaattac	taattactcc	tgaaatcaga	aaagagggtta	aaaagatttt	ataacagtat	180
cctatgaaat	ctactacttt	caagtaatag	tagttgaatt	acccaaaaccc	gtcactcaag	240
ccaatgacta	caattaagat	atgagtaaca	tttcctagat	aaataaagtc	aattaattat	300
atgtgcatct	gggaaataga	gaaagtacat	ataagccatg	atgttgaagn	caaaagagag	360
agantatttg	ccaaggagg	gtgagttata	gtatgttaatt	ataacatata	gaagcttttt	420
gtatgctggt	aactaatttt	aatttcctac	attnttatgg	agatttctgc	tattcttgtc	480
ctattttcca	cct					493

<210> 751

<211> 364

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(364)

<223> n = A,T,C or G

<400> 751

cgaggtctgg	naaggtcacc	aagtctgccc	aganagctca	gaaggctaaa	tgaatattat	60
ccctaatacc	tgccacccca	ctcttaatca	gtggtggaag	aacggtctca	gaactgtttg	120
tttcaattgg	ccattttaagt	ttagtagtaa	aagactgggt	aatgataaca	atgcatcgta	180
aaaccttcag	aaggaaagga	gaatgttttg	nggaccactt	tggttttctt	ttttgcggtg	240
ggcagtttta	agttattagt	ttttaaaatc	agtacttttt	aatggaaaca	acttgaccaa	300
aaatttgtca	cagaattttg	agaccatta	aaaaagttaa	atgagataaa	aaaaaaaaan	360
cntg						364

<210> 752

<211> 498

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(498)

<223> n = A,T,C or G

<400> 752

ctggattatg	ggttggnatt	ggtcatatgt	tagactccat	acaggcatag	ctatgatgca	60
gtgaatccct	tagaagttac	aattctcaaa	ttacatactt	cctcagatgt	aacattagaa	120
ctcaatattt	ctaacaataa	cataccagaa	aaggctggac	tggcactcat	ctgctgacta	180


```

acttgtagcc tcagtaatat gacatacttg cctttaacaa attatctcaa attaactaac 240
agaccttcag aaaatggaga ttctttttga tggggacata atcaaattta agtctgagaa 300
atatgcttaa cagttggaac tcaaattaaa tgtactgatt ttaaagttta gacattaaca 360
agtgatanat tagcctcaaa aaaagacaat ttggnaaggn ttaggtcttt taatttggtg 420
cttgntcaca acttgactgg tgcttctttc cttgctgctt cacatcaagc atggggccaa 480
ttctattttc agtaaatg

```

```

<210> 753
<211> 467
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(467)
<223> n = A,T,C or G

```

```

<400> 753
nacaacctta gccanaacca tttacccaaa taaagggata ggcgatagaa attgaaacct 60
ggcgcaatag atatagnacc gcaagggaaa gatgaaaaat tataaccaag cataatatag 120
caaggactaa cccctatacc ttctgcataa tgaattaact agaaataact ttgcaaggag 180
agccaaagct aagacccccg aaaccagacg agctatctaa gaacagctaa aagagcacac 240
ccgtctatgt agcaaaatag tgggaagatt tataggtaga ggcgacaaac ctaccgagcc 300
tggtgatagc tggntgncca agatagaatc ttagntcaac tttaaatttg cccacagAAC 360
cctctaaatc cccttgtaaa tttactgtt agtccaaaga ggaacagctc ttggacacna 420
ggaaaaaacc ttgcagagag agtaaaaaat ttaacaccca tagtagg 467

```

```

<210> 754
<211> 196
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(196)
<223> n = A,T,C or G

```

```

<400> 754
gtcatgttca agtgttntaa tctgacgcag gcttatgcgg aggagaatgt tttcatgtta 60
cttatactaa cattagttct tctatagggt gatagattgg tccaattggg tgtgaggagt 120
tcagttatat gtttgaggatt ttttaggcag tgggtgttga gcttgaacgc tttcttaatt 180
ggtggctgct tttagg
196

```

```

<210> 755
<211> 381
<212> DNA
<213> Homo sapien

```

```

<400> 755
ctggaaagga ttctgtacat ataagacatc aaatattgag ggatactgga acttttaaAT 60
taatgggcaa agaaagtcaa caaaggaagt tcatatgaaa tcaaactagt aatatgatta 120

```

```

caaaaaaaaaa gtttaaaatt tttcttggcc ccagtcttat ctttctgag ccaaatacaa      180
ttctatcgaa atcacctgaa actgaaatca ccattctagg ctgggtttcc cataaagatg      240
gactgctcca aaaagaggaa tcaagaaaga atttggtcca cagtgaatta ttcactttgt      300
cttagttaac taaaaataaa atctgactgt taactacaga aatcatttca aattctgtgg      360
tgataataaa gtaatgaccg c                                     381

```

<210> 756

<211> 341

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(341)

<223> n = A,T,C or G

<400> 756

```

ggntataaac ctattattta ttgcagaact aataaaaaat ccaaagcctt gtatttgtac      60
atctttatta tctctaaagc actttcctca acctaatttc agtttttaca attggtactc      120
aagaaaatag agacagaaat catttgattt tgcccagaaa ccactctgctt atatttataa      180
ggccacctaa tttgaaatca catatagacc aggcgcggtg gctcacgcct gtaattccaa      240
cactttggaa ggccaaggca ggtggatcac aaggtaaga gattgagacc atcttgcca      300
acatggcgaa acccgtctc taccaaaaat acaaaaatca g                                     341

```

<210> 757

<211> 479

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(479)

<223> n = A,T,C or G

<400> 757

```

cgcnttactg tacatattgc tagcagggag acaactggaa atactaaaca aatactggaa      60
ttcacattac agacagacga aaccaacatg gatgccacac ataacttcct ttgtagtctc      120
acagagagcc tatttggtgt tgctcaggtg ggggtcatata ttgcttgagc aaatggcctg      180
atcatagctc tatgaaacaa tgaattcgga atgaaatctt accatgacac ctctctgtag      240
gaaagaaatg ttgcttcacg tgtgctaagt tgagataata atatttcaca tatttatata      300
cagagaatca ctctcaaatt taacccaaga taagcaatag gatttggggg tgacttgtnc      360
acattttctaa caacactttt cttttttcta gaggtcactc tcaaacactg atatatcact      420
atagnttgag ngtagggatt caagtaatca aagggttgta ttgcaaaaga gccaggcag      479

```

<210> 758

<211> 267

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(267)

<223> n = A,T,C or G

<400> 758

```
ccatgnctag gtttatagat agttgggtgg gttggtgtaa atgagtgagg caggagtccg      60
aggagggttag ttgtggcaat aaaaatgatt aaggatacta gtataagaga tcagggttcgt    120
ccttttagtgt tgtgtatggc tatcatttgt tttgaggtta gtttgactag tcattgttgg      180
gtggttaatta gtcggttgtt gatgagatat ttggagggtg ggatcaatag agggggaaat     240
agaatgatca gtactgcggc gggtagg                                           267
```

<210> 759

<211> 449

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(449)

<223> n = A,T,C or G

<400> 759

```
cgaggtcttg aaatcagcaa cacacttaca aatgagaaaa tgaaaataga agagtatata      60
aagaaagggg aagaggatta tgaagagagt catcagagag ctgtggctgc agaggtatcc     120
gtacttgaaa actggaagga gagtgaagtg tataagctac agatcatgga gtcacaagca     180
gaagcctttc tgaagaagct ggggctgatt agcctgtatc ctgcagcata tcccacatg      240
gagtctgata tacgttcacg ggaattgttt ctttctaata ttacaaaaga aattgagaaa     300
gcaaagtctc agtttgaaga acaaattaag gcaattaaaa atgggtcccc gctcagtga      360
ctttctaaag ngcagatttc tgagctttca tttcctgcct gtaacacggt tcatcccgag     420
ttactccctg agtcttcagg ccacgatgg                                           449
```

<210> 760

<211> 414

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(414)

<223> n = A,T,C or G

<400> 760

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ccatnaactg gaagcagctc actaaacaaa cagnggcata cccatagaac tgcatacttc      60
tcagcagtat gaaagaatga gctacttata taagcatcat tgataaacct caaaaaaaaaa     120
atgccacatg aagaanccca aggggggagaa acataaaaaac tttatatgnc agncatataa     180
aattctagaa aatgcaaaact aatccatcnt aaaggaaagt aaatcancag ttgtctggag      240
gaccanagag agcaggagga gagagattnt taanggggtt aaagtaaatt ngggagtgcc      300
cttccatttt taaatnctat gaaaatgaaa gttaaaggccc ntgcatgttg taaactaata     360
gtaacaaaca gattggggtg gagtgggggtg ttgtctgggg acatcattac aaan           414
```

<210> 761

<211> 428

<212> DNA

<213> Homo sapien

<400> 761

gagcctcact	aaaataacag	atttcagtat	agccaagttc	atcagaaaga	ctcaaattgga	60
atgatttaca	agatagaaca	ctttaaacca	ggtcagtcct	atctttttgt	agctgaaggc	120
tatcagtcac	aacacaattt	cgcgtacacc	tctgctcatt	atggaattac	acttaaaacg	180
aatctcaaga	gggtgaccat	tgttgtttca	gataccatcc	ctaaggagag	tggttaacag	240
gaagattgcc	agtgttactg	atggaaagaa	gtgtttgttt	gttttttttc	ttgtcaaaga	300
cttacaccat	agttttaaat	taaactgtca	ggcattttct	cagacagggt	ttccttttca	360
atgcagtaat	gaagaactaa	gataaaaatc	atgacttttg	actgccactc	aacattatta	420
catgcacc						428

<210> 762

<211> 574

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(574)

<223> n = A,T,C or G

<400> 762

caggctctgaa	ctgataagta	ttaagagacg	tttgttgcta	gttaagngtt	ccagttgaga	60
gttcgaagtg	aaaacctggg	ctctttacca	gtgttgagtg	agaagattta	tttctctttc	120
ctctgaattt	accacatgta	acatcacaga	gacatgtaga	gttccttttag	gatttgcgat	180
ttgaaccagn	ccagtcctgat	tttcagggtga	attctgtgaa	gagcttgatg	ggggaagtct	240
gaagacagaa	ggaattaggg	aaaaggggtga	tacttacaga	gtaaaggaaa	taaatgaaaa	300
gataatggta	tttttggtag	ccacagggaa	atagcaggag	gggactggag	atcacacaca	360
cgcacacgca	cacacacaaa	cacacacaca	cgctaaaact	caaactaaaa	acctcccaaa	420
ggagctgctt	tgtttgacga	cttcaattng	aagtagatac	taagggcaag	aatagaccag	480
ttaaaattca	cctgaaaaatc	tcttcccann	cttcaaattgt	gctaaaatat	cactgtcagc	540
ttagcatctc	tncatgtatg	tatatataga	tgta			574

<210> 763

<211> 465

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(465)

<223> n = A,T,C or G

<400> 763

cctactatgg	gtgttaaaat	tttttactct	ctctacaagg	ntttttccta	gtgtccaaag	60
agctgttcct	ctttggacta	acagttaaat	ttacaagggg	atttagaggg	ttctgngggc	120
aaatttaaaag	ttgaactaag	attctatctt	ggacaaccag	ctatcaccag	gctcggttag	180
tttgtcgctt	ctacctataa	atcttcccac	tatttttgcta	catagacggg	tgtgctcttt	240
tagctgttct	taggtagctc	gtctgggttc	gggggtctta	gctttggctc	tccttgcaaa	300

gttattttcta gtttaattcat tatgcagaag gtataggggt tagtccttgc tatattatgc	360
ttggatataa tttttcatct ttcccttgcg gtactatatac tattgcgcca ngtttcaatt	420
tctatcgct atactttatt tgggtaaag gtttggtctaa ggttg	465

<210> 764

<211> 151

<212> DNA

<213> Homo sapien

<400> 764

ctgtcaatta atgctagtcc tcaggattta aaaaataatc ttaactcaaa gtccaatgca	60
aaaacattaa gttggttaatt actcttgatc ttgaattact tccgttacga aagtccttca	120
catttttcaa actaagctac tatatttaag g	151

<210> 765

<211> 251

<212> DNA

<213> Homo sapien

<400> 765

gaagagctta tcacctttca tgatcacgcc ctcatagtca ttttccttat ctgcttccta	60
gtcctgtatg cctttttcct aacactcaca acaaaactaa ctaatactaa catctcagac	120
gctcaggaaa tagtaaccgt ctgaactatc ctgcccgcga tcctcctagt cctcatcgcc	180
ctcccatccc tacgcaccc ttacataaca gacgagggtca acgatccctc ccttaccatc	240
aatcaattg g	251

<210> 766

<211> 375

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(375)

<223> n = A,T,C or G

<400> 766

cgaggtctgn cctcctggtt cttcatccat tattaacaga agagcatact ggtttcggtc	60
cataaaatct ttgggaaggg acaactgtaa aggaagttca tagtcgtcaa tatgaaggat	120
tttaatttct ggctttccta tcttcttctt caggatagct tccttcagca tagaattggt	180
ttccaatata aaatatatttg ctgggttggtc cgtactatgt aggetgacca ctgggaccct	240
tggaccttca cagaataata agaaatgttg attcatggga ctaaaactgg catcaaaata	300
tgtacattgt tctttcatga aattacatga aatgcattgg cgattcaata atccttcagt	360
agaagcactg tacag	375

<210> 767

<211> 485

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(485)
 <223> n = A,T,C or G

<400> 767
 cgaggtctga accctcgtgg agccattcat acaggtccct aattaaggaa caagtgatta 60
 tgctaccttn gcacggttag ggtaccgcgg cccgttaaac atgtgtcact gggcaggcgg 120
 tgcctctaata actggtgatg ctagagggtga tgtttttggn aaacaggcgg ggtaagattt 180
 gccgagttcc ttttactttt tttaaccctt ccttatgagc atgcctgtgt tgggttgaca 240
 gtgagggtaa taatgacttg ttggtgattg tagatattgg gctgttaatt gtcagttcag 300
 tgttttaatac tgacgcaggc ttatgcggag gagaatgttt tcatgttact tatactaaca 360
 ttagttcttc tatagggtga tagatnggtc caattgggtg tgaggagntc acttatatgt 420
 ttgggatttt ttaggtaagn ggggtgttgag cttgaacgct ttcttaattg ggggctgctt 480
 ttang 485

<210> 768
 <211> 379
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(379)
 <223> n = A,T,C or G

<400> 768
 ctgatattct attaaagata caaagaggag ctggnaccat ttcttctgaa actattacaa 60
 acaactgaaa aggtggaatt tctccctaata tcatttttagg aggccagcat tatactgata 120
 ccaaaacctg gcagaggtag aataataaaa ggaaacttca agtcagtatc actgatgaac 180
 accaatgtga aaatcctcaa taaaataactg gcaaactgaa ttcagcagca catcaaaaag 240
 ctaatccacc acaatcaagt cagcttcatc cctgcgatgc aagtctgggt caacatatgc 300
 aaatcaataa atacaattca tcagataaac agagctaaag acaaaattca catgattttc 360
 tcaatagatg cagaaaagg 379

<210> 769
 <211> 518
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(518)
 <223> n = A,T,C or G

<400> 769
 cgaggtccat atgatgatca gtctatatag ttttaaggcgc agatacacaa attttcaaaa 60
 atatgggttag aatatagtca atatgaatgg aatagacaat gctttgaaaa tcaactggagg 120
 gaggttttat tgtttgtgaa aacatgttgt catcactttt tgctttaagc ccttggtggt 180
 gaaataactc aaaccattct tccttatgct gaagatcgag aaccccaagt atcacatcta 240
 ccatcccat catcaatgtg attggtcagt ctttgctgag gncctgcata gccagtttta 300
 aagttagagt tcttgcatat acatatgaaa aggcattgta cttgtgcttt caaagagctt 360

tttgcttggt	gtaaaaagaa	aactcaaatt	acagtgtgat	gtggaatata	atgggtggtag	420
tttcatcgag	atgatgggaa	agaattgata	agataaagcn	gaaagatgag	cagaattttc	480
agattgggtn	tggaagagc	acttaagaaa	gagggtgg			518

<210> 770

<211> 378

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(378)

<223> n = A,T,C or G

<400> 770

tatgggtcct	gagtgtggaa	tataagataa	caagacaatt	cccttgcttt	caagggaaat	60
cacactttat	aaaactttga	attcttgaaa	tgggtttcag	aggttccaag	gtcaaattca	120
agaataagag	ttaagaagaa	aaagactatg	agaaaggaag	tgntgacccc	atgtgcattt	180
aaatggcagg	aatagtctca	atctactcat	tggggaaaaa	tgtatgttgc	atatttttga	240
gatattgcaa	cttgctctct	ctctttgcca	ccccaccctt	tgncatgctc	tgtttttggg	300
ctgaattggc	aagaaaaaatg	gctggagggc	tggagaagn	tggacccttc	ttccttcttc	360
cttcttcctt	ctttctcc					378

<210> 771

<211> 207

<212> DNA

<213> Homo sapien

<400> 771

cataaatatt	atactagcat	ttaccatctc	acttctagga	atactagtat	atcgctcaca	60
cctcatatcc	tccctactat	gcctagaagg	aataatacta	tcactgttca	ttatagctac	120
tctcataacc	ctcaacaccc	actccctctt	agccaatatt	gtgcctattg	ccataactagt	180
ctttgccgcc	tgcgaaagcag	cggtagg				207

<210> 772

<211> 384

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(384)

<223> n = A,T,C or G

<400> 772

cctactatgg	gtgttaaatt	ttttactctc	tctacaaggt	tttttcttag	tgtccaaaga	60
gctgttcctc	tttggactaa	cagttaaatt	tacaagggga	tttagagggt	tctgnngggca	120
aatttaaagt	tgaactaaga	ttctatcttg	gacaaccagc	tatcaccagg	ctcggtaggt	180
ttgtcgctc	tacctataaa	tcttcccact	attttgctac	atagacgggt	gtgctctttt	240
agctgttctt	aggtagctcg	tctgggtttcg	gggggtcttag	ctttggctct	ccttgcaaag	300
ttatttctag	ttaattcatt	atgcagaagg	tataggggtt	agtccttgct	atattatgct	360

tggttataat ttttcatctt tccc

384

<210> 773

<211> 182

<212> DNA

<213> Homo sapien

<400> 773

cccttttcct aacactcaca acaaaactaa ctaataactaa catctcagac gctcagggaa	60
atagaaaccg tctgaactat cctgcccgcc atcactcctag tctcctcgc cctcccatcc	120
ctacgcaccc ttacataac agacgaggtc aacgacccct cccttaccat caaatcaatt	180
gg	182

<210> 774

<211> 191

<212> DNA

<213> Homo sapien

<400> 774

ccatggctag gtttatagat agttgggtgg ttgggtgtaa atgagtgagg caggagtccg	60
aggaggtag ttgtggcaat aaaaatgatt aaggatacta gtataagaga tcagggtcgt	120
ccttttagtgt tgtgtatggc tatcatttgt tttgagggtta gtttgattag tcattgttgg	180
gtggttaatta g	191

<210> 775

<211> 192

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(192)

<223> n = A,T,C or G

<400> 775

ccatggctaa gntatataga tagctgggtg gctggagtaa atgantgagg nacgagtccg	60
angaggtag ttgaggcaat aaaaatgatn aaggatacta gtataagaga tcangttcgt	120
cctttacatg ttgngtatgg ctatcatttg ttttgaggct agnttgatta gtcattgttg	180
ggtggttaatt aa	192

<210> 776

<211> 144

<212> DNA

<213> Homo sapien

<400> 776

ctgacccctt agaaccctgg ctctgccatt agctaggacc taagactctg cccacatttt	60
ggtctgttct ctccattac acatagggtt gtctcagcat gcaagagttt ttcctttaaa	120
aaaaaaaaaa aaaaaaaaaa aaaa	144

<210> 777

<211> 483
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(483)
 <223> n = A,T,C or G

<400> 777
 cctactatgg gtgntaaatt ttttactctc tctacaaggt tttttcctag tgtccaaaga 60
 gctgttcctc tttggactaa cagttaagtt tacaagggga tttagagggt tctgtgggca 120
 aatttaaagt tgaactaaga ttctatcttg gacaaccagc tatcaccagg ctcggtaggt 180
 ttgtcgctc tacctataaa tcttccact attttgctac atagacgggt gtgctctttt 240
 agctgttctt aggtagctcg tctggtttcg ggggtcttag ctttggctct ccttgcaaag 300
 ttatttctag ttaattcatt atgcagaagg tataggggnt aagtccttgc tatattatgc 360
 ttggatataa tttttcatct ttcccttgcg gtactatatac tattgcgcca ggtttcaatt 420
 tctgccgcct atactttatt tgggtaaagt gtttggtctaa ngttgctggt agaaggtgga 480
 gtg 483

<210> 778
 <211> 393
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(393)
 <223> n = A,T,C or G

<400> 778
 ctgcattttt attgcgatct gcagatgaac tgggaaaatc tcattttaca acagaactga 60
 gacagacgac caccatattc actgaggtct aaatttgcag tttccactaa tgacattttg 120
 atttcccaac agagatactt ctggctcttac tgcacagtct ttttaagagaa atacttccat 180
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 ctctgaagta cttgagctac tttagtatgt ccagcctatt gctttttggt ttagnngnct 300
 accataaata tcaggggcat aaaaggctat ctattcttaa ttcaaggata aaacagaaga 360
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<210> 779
 <211> 277
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(277)
 <223> n = A,T,C or G

<400> 779
 cctnttgatt tgatgggtaa ggggagggat cgttgacctc gtctggttatg taaaggatgc 60

```

gtaggggatgg gagggcgatg aggactagga tgatggcggg caggatagtt cagacggttt      120
ctatttcctg agcgtctgag atgttagtat tagttagttt tgttgtagt gttaggaaaa      180
gggcatacag gactaggaag cagataagga aaatgactat gagggcgtga tcatgaaagg      240
tgataagctc ttctatgata ggggaagtag cgtcttg      277

```

```

<210> 780
<211> 328
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(328)
<223> n = A,T,C or G

```

```

<400> 780
catgntatgg ataacatnt taactgtatt ttntgcanc cgtaccttct tgggaataca      60
attgtctaac tttttathtt tggntctggct gttgtgggtg gcaaaactcc gtacattgct      120
atthtgccac actgcaacac cttacagatg tggaagatgt gaaatttgtc atcaattatg      180
actacoccaa ctctcagag gattatattc atcgaattgg aagaactgct cgcagtacca      240
aaacaggcac agcatacact ttctttacac ctaataacat aaagcagggg agcgacctta      300
tctctgtgct tcgggaagct aancaaac      328

```

```

<210> 781
<211> 305
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(305)
<223> n = A,T,C or G

```

```

<400> 781
ctgttcagaa agctcattgg acctgggtttt gaaaataaaa caaagttaaa accctggggag      60
gagttattgt gcagngtgga gtactcaggc tttcttataa agaaaaaaaa agttatctgg      120
taccaaagtg tgcaacctac agaccctcag gtactgccct gtgacttctc tgtatgacat      180
cacaaggctg ccaagtgcct gtttttctag aactaggagt tggtgagggt tggctantgc      240
tgaaaccatg cataggattg gtttactaaa ttaaacctt attacgtacg tcctccaaaa      300
gacag      305

```

```

<210> 782
<211> 497
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(497)
<223> n = A,T,C or G

```

<400> 782

cgaggtggct ttaattgatg ttaatgcctt atgtcaaagt taaagttaga atttgctagg	60
gctgggatag ggagtgatat ttctaggact tagacattga aaactaattc agcctgtagt	120
aacctggatg gttttcaatg gcatgggttag tcaaattcat ggttttaaac ttagaagcag	180
ctttcggggg agagggtagg ttggagcatt tattacatat ttactgttt aatgtcttaa	240
ccgtgggcct ttttaattgt aaacactgaa atgattgttg ggctgtggaa aacatttacc	300
tatttacctt ggaagtttta aaagacagtc cacttttttag catgtgtgtt gcgtccagcc	360
tgtggtcgtc ttaactaata aatgngattt ttctctcaaa aaaaaaacct ccccgggcgg	420
ccgtcaagg gnaattccn cacactggcg gccgttacta ggggatccga nctcggcca	480
agcttggcgt aatcatg	497

<210> 783

<211> 364

<212> PRT

<213> Homo sapien

<400> 783

Met Trp Gln Pro Leu Phe Phe Lys Trp Leu Leu Ser Cys Cys Pro Gly	1 5 10 15
Ser Ser Gln Ile Ala Ala Ala Ala Ser Thr Gln Pro Glu Asp Asp Ile	20 25 30
Asn Thr Gln Arg Lys Lys Ser Gln Glu Lys Met Arg Glu Val Thr Asp	35 40 45
Ser Pro Gly Arg Pro Arg Glu Leu Thr Ile Pro Gln Thr Ser Ser His	50 55 60
Gly Ala Asn Arg Phe Val Pro Lys Ser Lys Ala Leu Glu Ala Val Lys	65 70 75 80
Leu Ala Ile Glu Ala Gly Phe His His Ile Asp Ser Ala His Val Tyr	85 90 95
Asn Asn Glu Glu Gln Val Gly Leu Ala Ile Arg Ser Lys Ile Ala Asp	100 105 110
Gly Ser Val Lys Arg Glu Asp Ile Phe Tyr Thr Ser Lys Leu Trp Ser	115 120 125
Asn Ser His Arg Pro Glu Leu Val Arg Pro Ala Leu Glu Arg Ser Leu	130 135 140
Lys Asn Leu Gln Leu Asp Tyr Val Asp Leu Tyr Leu Ile His Phe Pro	145 150 155 160
Val Ser Val Lys Pro Gly Glu Glu Val Ile Pro Lys Asp Glu Asn Gly	165 170 175
Lys Ile Leu Phe Asp Thr Val Asp Leu Cys Ala Thr Trp Glu Ala Met	180 185 190
Glu Lys Cys Lys Asp Ala Gly Leu Ala Lys Ser Ile Gly Val Ser Asn	195 200 205
Phe Asn His Arg Leu Leu Glu Met Ile Leu Asn Lys Pro Gly Leu Lys	210 215 220
Tyr Lys Pro Val Cys Asn Gln Val Glu Cys His Pro Tyr Phe Asn Gln	225 230 235 240
Arg Lys Leu Leu Asp Phe Cys Lys Ser Lys Asp Ile Val Leu Val Ala	245 250 255
Tyr Ser Ala Leu Gly Ser His Arg Glu Glu Pro Trp Val Asp Pro Asn	260 265 270

Ser Pro Val Leu Leu Glu Asp Pro Val Leu Cys Ala Leu Ala Lys Lys
 275 280 285
 His Lys Arg Thr Pro Ala Leu Ile Ala Leu Arg Tyr Gln Leu Gln Arg
 290 295 300
 Gly Val Val Val Leu Ala Lys Ser Tyr Asn Glu Gln Arg Ile Arg Gln
 305 310 315 320
 Asn Val Gln Val Phe Glu Phe Gln Leu Thr Ser Glu Glu Met Lys Ala
 325 330 335
 Ile Asp Gly Leu Asn Arg Asn Val Arg Tyr Leu Thr Leu Asp Ile Phe
 340 345 350
 Ala Gly Pro Pro Asn Tyr Pro Phe Ser Asp Glu Tyr
 355 360

<210> 784

<211> 6353

<212> DNA

<213> Homo sapien

<400> 784

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cagcgtgacc	gctacacttg	ccagcgcct	agcgcgcgct	cctttcgctt	tcttcccttc	120
ctttctcgcc	acgttcgcgc	gctttccccg	tcaagctcta	aatcgggggc	tcccttttagg	180
gttccgattt	agtgttttac	ggcacctcga	ccccaaaaaa	cttgattagg	gtgatggttc	240
acgtagtggg	ccatgcgcct	gatagacggt	ttttcgccct	ttgacgttgg	agtccacgtt	300
ctttaatagt	ggactcttgt	tccaaactgg	aacaacactc	aaccctatct	cggctctattc	360
ttttgattta	taagggattt	tgcgcgattt	ggcctattgg	ttaaaaaatg	agctgattta	420
acaaaaattt	aacgcgaatt	ttaacaaaat	attaacgttt	acaatttcag	gtggcacttt	480
tcggggaaat	gtgcgcggaa	cccctatttg	tttatttttc	taaatacatt	caaatatgta	540
tccgtcatg	aattaattct	tagaaaaact	catcgagcat	caaatgaaac	tgcaatttat	600
tcatatcagg	attatcaata	ccatattttt	gaaaaagccg	tttctgtaat	gaaggagaaa	660
actcaccgag	gcagttccat	aggatggcaa	gaccttggtg	tcggtctgcg	attccgactc	720
gtccaacatc	aatacaacct	attaattttc	cctcgtcaaa	aataagggtg	tcaagtgaga	780
aatcaccatg	agtgcgcact	gaatccgggt	agaatggcaa	aagtttatgc	atttctttcc	840
agacttggtc	aacaggccag	ccattacgct	cgtcatcaaa	atcactcgca	tcaaccaaac	900
cgttattcat	tcgtgattgc	gcctgagcga	gacgaaatac	gcgatcgctg	ttaaaaggac	960
aattacaaac	aggaatcgaa	tgcaaccggc	gcaggaacac	tgccagcgca	tcaacaatat	1020
tttcacctga	atcaggatat	tcttctaata	cctggaatgc	tgttttcccg	gggatcgag	1080
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<211> 5502

<212> DNA

<213> Homo sapien

<400> 785

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<212> PRT
<213> Homo sapiens
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<400> 787

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Gly Ser Val Lys Arg Glu Asp Ile Phe Tyr Thr Ser Lys Leu Trp Ser
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Thr Phe His Arg Pro Glu Leu Val Arg Pro Ala Leu Glu Asn Ser Leu
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Lys Lys Ala Gln Leu Asp Tyr Val Asp Leu Tyr Leu Ile His Ser Pro
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<210> 788

<211> 1633

<212> DNA

<213> Homo sapiens

<400> 788

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<211> 200

<212> PRT

<213> Homo sapien

<400> 789

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Trp Lys Thr Met Ser Gly Lys Glu Lys Ser Lys Phe Asp Glu Met Ala
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Lys Ala Asp Lys Val Arg Tyr Asp Arg Glu Met Lys Asp Tyr Gly Pro
65     70     75     80
Ala Lys Gly Gly Lys Lys Lys Asp Pro Asn Ala Pro Lys Arg Pro
85     90     95
Pro Ser Gly Phe Phe Leu Phe Cys Ser Glu Phe Arg Pro Lys Ile Lys
100    105    110
Ser Thr Asn Pro Gly Ile Ser Ile Gly Asp Val Ala Lys Lys Leu Gly
115    120    125
Glu Met Trp Asn Asn Leu Asn Asp Ser Glu Lys Gln Pro Tyr Ile Thr
130    135    140
Lys Ala Ala Lys Leu Lys Glu Lys Tyr Glu Lys Asp Val Ala Asp Tyr
145    150    155    160
Lys Ser Lys Gly Lys Phe Asp Gly Ala Lys Gly Pro Ala Lys Val Ala
165    170    175
Arg Lys Lys Val Glu Glu Glu Asp Glu Glu Glu Glu Glu Glu Glu
180    185    190
Glu Glu Glu Glu Glu Asp Glu
195    200

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Tongtong Wang and Chaitanya S. Bangur
Filed : March 6, 2000
For : COMPOSITIONS AND METHODS FOR THERAPY
AND DIAGNOSIS OF LUNG CANCER

Docket No. : 210121.478C4

Date : March 6, 2000

Box Patent Application
Assistant Commissioner for Patents
Washington, D.C. 20231

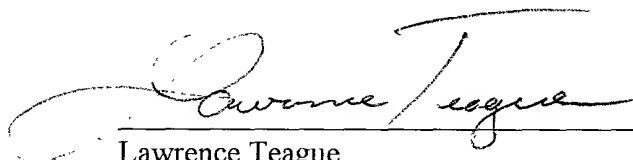
DECLARATION

Sir:

I, Lawrence Teague, in accordance with 37 C.F.R. § 1.821(f) do hereby declare that, to the best of my knowledge, the content of the paper entitled "Sequence Listing" and the computer readable copy contained within the floppy disk are the same.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Dated this 6th day of March, 2000.



Lawrence Teague
Legal Assistant

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